The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

VOL. 23. No. 24-A TULSA, OKLAHOMA, NOVEMBER 6, 1924

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Several Areas in Crude Oil Limelight

Average daily production in United States week ended Nov. 1, 1,947,375 bbls. Loss from previous week, 1,990 bbls.

South Vernon Pool and Jim Hogg County Test in Texas Cause Flurries. New Pool Opened in Kansas

By Andrew M. Rowley

Highest daily average estimated production this year, week ended Aug. 23, 2,057,319 bbls. Lowest, January 12, 1,871,143 bbls.

Developments in several widely scattered areas in the United States featured the crude petroleum situation during the past week, distracting somewhat, for the time being, the interest which has centered greatly in Oklahoma. Two districts in Texas were in the limelight, the South Vernon Pool in North Central Texas, 24 miles west of Electra, attracting considerable attention by the large flow of wells drilled slightly deeper there, while in the extreme southern part of the State, in Jim Hogg County, the wildcat test which started flowing a week ago had increased its output and although pinched in, was putting 1,000 barrels a day into earthen storage. This well is the most southerly producer in the United States and already is the cause of much new work in that section. The largest well completed in the Cotton Valley Field in Louisiana was brought in during the week with a flow estimated at the start at about 10,000 barrels, 5 per cent salt water and 3 per cent sediment. Later it was making possibly 5,000 barrels. Another Wilcox sand pool seems to have been opened in Kansas in Cowley County a little north of the Rainbow Bend Pool. Results of work in Colorado seem to remove that area from any serious consideration as far as possible effect on crude production of the entire country is concerned.

Deeper drilling in the South Vernon Pool in North Central Texas resulted in production of the field being increased materially and opens the possibility of a much greater output from the section. When Bridwell Heydrick and Palmer drilled their No. 1 Stephens into the pay in the pool at 2,034 feet and continued the hole to 2,047 feet the well responded with an initial flow of probably 150 barrels an hour, causing some excitement throughout the Mid-Continent area where operators for a time had visions of a second Tonkawa. The well settled to a flow of 1,280 barrels daily through a 3-inch line and might produce more through a larger line. A number of other wells in the area will be drilled a little deeper and new tests will be started to the producing horizon.

Hennie, Winch and Fariss' wildcat well in Jim Hogg County, Texas, mentioned last week as having come in flowing 750 bbls. a day, increased its flow and was making 1,000 barrels daily of 23 gravity oil, pinched in. Locations have been made for additional tests in the vicinity and a pipe line is being laid to the flowing well.

Thomas B. Slick, probably the world's largest individual producer of crude oil, seems to have opened a new Wilcox sand pool in Cowley County, Kansas, a little north of the Rainbow Bend Pool, when his No. 1 Carson came in flowing 40 barrels an hour of 40 gravity oil. One of the largest gas wells completed in southern Kansas was brought in in Elk County by the Hope Petroleum Company, the well making 75,000,000 feet.

Another decline in production was recorded in California last week, the average estimated output dropping 6,750 barrels a day to an average for the week of 593,000 barrels. It seems further declines may be expected although it is believed Rosecrans and Dominguez will show increases.

While production throughout the United States showed another decline last week, the drop was comparatively small compared to what it has been during the past month or so and it is not believed production during the remainder of this year will show any great decrease from its present level. The estimated production last week, it must be remembered, while 109,944 barrels daily below the estimated high for this year, was still 76,232 barrels daily greater than the low point of the year recorded last January. Production for the entire United States during the first nine months of this year was just about 5,000,000 barrels less than for the same period last year. It seems very likely the estimate made early this year in The Oil and Gas Journal that crude production of the country during 1924 would approximate 720,000,000 barrels will nearly hit the mark. It is not very probable it will be under that estimate.

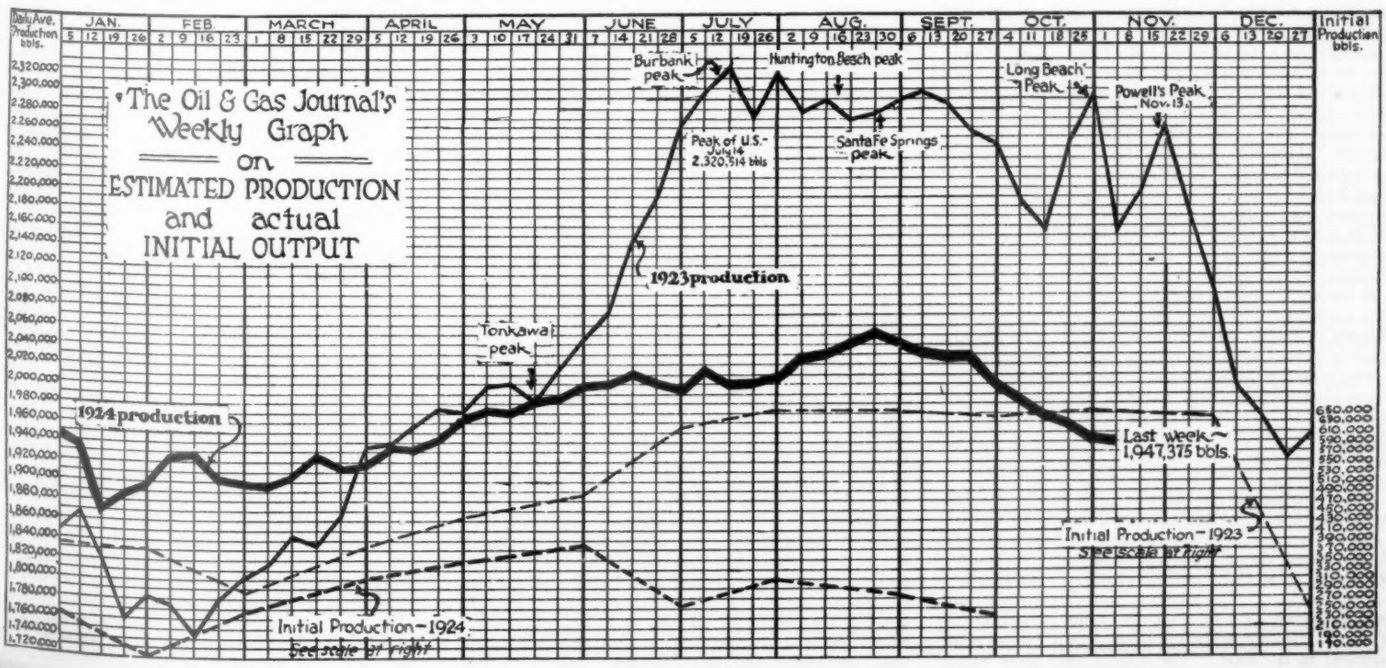
This large production with the increased stocks of crude make it necessary for operators to be cautious about development at this time. The feeling is gaining ground crude oil prices will be advanced in the not far distant future but it is also felt the industry probably would benefit more if present low prices were held for some time to come. The lesson of last year is too fresh in the minds of operators for them to desire any rapid advances in crude prices which would mean intensive drilling with a mounting production resulting in conditions which obtained earlier this year.

PRODUCTION IN THE UNITED STATES

Estimated daily average production in the oil fields of the United States for the week ended November 1, and a comparison with previous week follows:

	Nov. 1	Oct. 25
Oklahoma—Northern Fields:		
Tonkawa	100,940	104,760
Burbank	70,820	72,480
Other Osage Fields	41,460	42,590
Cushing and Shamrock	23,690	23,715
Bristow and Eastern Bristow	43,900	45,125
Cromwell	43 940	40,480
Stroud	5,575	5,920
Northern Miscellaneous	111,245	107,680
Southern Fields	68,300	68,360
Total Ok'ahoma	509,870	511,110
North Louisiana	53,296	53,825
Arkansas—		
El Dorado and Calion	11,840	11,700
Smackover Light	33,784	33,785
Smackover Heavy	73,295	73,795
Stephens and Nevada	3,690	3,670
Total Arkansas	122,609	122,950
North Central Texas	122,845	118,175
Powell	73,000	73,700
Mexia Currie, Richland etc.	54,400	53,650
Kansas	87,890	85,850
Total Mid-Continent Area	1,023,910	1,019,260
Gulf Coast	86,555	86,270
Southwest Texas	38,955	36,055
Eastern	106,825	106,850
Rocky Mountain Area	98,130	101,180
California—		
Santa Fe Springs	53,000	54,000
Long Beach	132,000	135,000
Huntington Beach	39,000	39,000
Torrance	49,000	49,000
Dominguez	33,000	33,500
Remainder of State	287,000	289,250
Total California	593,000	599,750
Total United States	1,947,375	1,949,365

DECREASE, 1,990 BARRELS


The Oil & Gas Journal's Weekly Graph on ESTIMATED PRODUCTION and actual INITIAL OUTPUT
Daily Ave. Production bbls.
JAN. FEB. MARCH APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
Initial Production bbls.
Burbank peak
Huntington Beach peak
Long Beach Peak
Powell's Peak Nov. 13
Peak of U.S. July 14 2,320,514 bbls
Santa Fe Springs peak
1923 production
Tonkawa peak
1924 production
Last week ~ 1,947,375 bbls
Initial Production - 1923 See scale at right
Initial Production - 1924 See scale at right

East Feels Situation Is More Favorable

Industry Not Out of Woods Yet But Conditions Look Much Better Now Than Several Weeks Ago. Consumption Increasing

By L. M. Fanning

A gradual change of sentiment among oil company executives in the East toward more favorable conditions in the oil industry has been noted during the past few weeks. This is in the face of a demoralized gasoline market, and loss of refining profits, necessitating in some cases a dumping of gasoline and an adjustment and curtailment of refinery operations. Tangible evidence of improvement in the crude oil siuation, it is pointed out, has now been furnished by the action of the Prairie Oil & Gas Company in lifting proration in the Mid-Continent and in announcing that it will purchase producers' oil it has been storing. The better feeling now apparent is not based so much on the slight declines in production of the last few weeks as upon the indications that there will be a natural decline in production—or, rather, that no large new production threatens in the immediate future— and that the progressively increasing consumption will bring about a more even balance between supply and demand than has existed during the last two years. The more conservative element in the oil business, while admitting that conditions are somewhat improved, stressed the point to the writer, however, that the industry is not by any means out of the woods and that, in view of the happenings of the last two years, it should move with the utmost caution and guard against anything approaching overoptimism. The principal factor to be regarded, according to these men, is that of heavy existing stocks. Another factor of as great importance is pointed to as being that of increased actual recovery and increased potential recovery of gasoline due to cracking.

Change of Sentiment Regarding Crude Situation

* * * * *

Recently revised figures for August and July covering the entire movement of crude oil and refined products shows the industry in a good statistical position as regards current supply and demand, and again brings out that the weight on the markets is that of heavy stocks. The backing up has been particularly noticeable as regards pipe line and tank farm storage oil, while the stocks of crude oil and refined products at refineries have shown notable declines due in large part to gasoline withdrawals. Pipe line and tank farm crude oil stocks as of August 31, 1924, were 356,211,000 barrels, compared with 301,338,000 barrels the same date a year ago, an increase over the year of 54,873,000 barrels. Crude oil stocks held at refineries total 40,635,790 barrels, against 34,270,863 barrels a year ago, an increase of 5,364,927 barrels. Total stocks of all refined products held at refineries amount to 117,959,514 barrels, against 103,616,782 barrels a year ago, an increase of 14,342,732 barrels. It is significant that gasoline accounts for all of the latter increase. Stocks of gasoline at the end of August amounted to 39,492,166 barrels, against 25,091,815 barrels at the end of the corresponding month of 1923, an increase of 14,400,351 barrels. Pipe line and tank farm stocks have increased each month this year through August —the latest available figures. It is apparent that September and probably October will show further additions to these stocks, and with restrictions on runs lifted there is on the surface less chance of withdrawals than was indicated a few weeks ago.

Current Statistical Position Good

* * * * *

An executive of one of the large producing and refining companies, while not willing to be quoted, stated that he believed the real turning point in the industry toward better conditions was less than two months away. Up to the time of the action of the Prairie in lifting proration there was a considerable element in the East of the opinion that there would be a further cut in crude prices before the bottom was reached. This opinion was based largely on the refinery situation and the fact that the industry was going into a period of decreased consumption. The Prairie action, however, has revised this opinion, and, as pointed out by the executive mentioned, the industry can now probably at least figure that the bottom has been reached so far as the present crude price movement is concerned. With this conceded, it is only a question of time when the price movement will be in the other direction, it is pointed out, and any firming up of the price structure will depend largely upon the effect of full crude oil takings upon production in the next few weeks. In the opinion of this executive, there is a reasonable possibility of an advance in crude prices in November or at least before the end of the year. Other oil men seen on the matter stated their belief that prices would probably remain at present levels into the new year, and that the situation would not warrant more than a moderate bulge until there had been an appreciable drawing on stocks. The view is held by the latter that merely a drawing on pipe line and tank farm crude oil stocks will not right the situation economically and that what is needed is a general liquidation of stocks of refined products in current demand and a more conservative manufacturing and storage policy for gasoline.

Had Looked for Further Crude Cut

* * * * *

According to some officials, the natural slowing up of refinery operations which would accompany the present conditions as regards gasoline will be less likely to occur on any large scale with the apparent turn in the crude oil situation. If the Prairie's action is read correctly in the East it is regarded as forecasting a firming up in prices, and will probably be followed by revived buying of crude by the rank and file of the refiners who will want to purchase in advance of any upward movement. On the other hand, the refiners are now heavily stocked, especially with finished products, and there is a question as to how far they will care to go. If history repeats itself refiners will be bidding on crude oil, and the premium demand will be followed by advances in posted prices, with resultant activity in field operations. Much will doubtless depend on the cumulative action of the refiners in the next few weeks as to whether crude oil prices will actually show some advance this year. In the light of the present condition as regards gasoline considerable doubt is expressed that the larger refiners will speed up their activities. In fact, the tendency on the part of some of the large Eastern plants is favorable to a policy of storage oil production, and the only thing that is keeping operations well up to former schedule is the demand for fuel oil.

Refiners Buying Factor in Stock Situation

* * * * *

Some interesting comment is heard to the effect that lower gasoline prices are causing increased use of gasoline on the part of the motorist. One large refiner from the Middle West recently in New York said that his company has been checking this question and is convinced that the motorist is buying more freely and using his car to a greater extent than he did with gasoline at higher levels. While the tendency of the motorist during the period of peak prices was to buy only two or three gallons at a time, according to this refiner, he is now filling up his tank. The evidence is that previously the motorist restricted the use of his car in line with his smaller purchases but that now when he is getting five gallons for the price he formerly was paying for four or three and a half gallons he is making the most out of the situation and doing some "bargain touring." As a general thing it has been considered that gasoline price has had little effect on the extent to which the motorist uses his car, but it is pointed out that price becomes more of a factor when there is sign of business hesitancy and personal economy. Inquiry among some of the Eastern companies shows that gasoline sales are climbing to new records, this applying to the entire movement but that the competitive situation among the various marketers is influencing sales of individual companies adversely. However, the fact that gasoline has been moving so freely since the recent slashing of prices indicates that the theory that the motorist is making greater use of his car is sound.

Greater Use of Gasoline at Lower Prices

* * * * *

Some of the Eastern companies which specialize in lubricating oils report that demand for motor oil has been brisker and they are inclined to credit this to greater use of his car by the motorist. It is pointed out that this is an appreciable benefit to many companies which are now forced to sell gasoline at a loss, and that lubricating oil, as well as fuel oil, is being called upon to bear more of the burden of the expense of refinery operation. How much lubricaitng oil can stand in this respect depends upon the continued heavy motor traffic, which so far has been favored by excellent weather conditions. On the whole, fuel oil is being looked to to tide the industry over the winter, this applying particularly to the large Eastern plants which cater heavily to the fuel oil trade. In connection with gasoline and lub demand during the next few months, another favorable factor is the progressively increased use of closer motor cars which has been accounting for larger consumption of the two petroleum products per car during the winter months. Companies are closely following such developments as that of the closed motor car in an effort to determine to what extent they may expect relief during the winter, and this, among other factors mentioned, will determine to no small degree their refinery policy during the next few months, which policy in turn will have the outstanding effect on the crude oil situation.

Demand for Lubs Strengthened by More Car Riding

* * * * *

In connection with the crude petroleum situation, a New York brokerage firm says:

"The information available from the leading sources of petroleum news may be summarized as follows: 1—The oil industry, entering the low output season of winter is constantly reducing the amount of new drilling in proven fields. 2—The star fields of 1924 are on the decline. 3—Fully 1,000 old wells producing small amounts have shut down because they are unprofitable to operate at current prices for crude. 4—At present none of the newer fields is expected to be able to show much in the way of increased output. 5—The major crude purchasing companies, by reduction of prices and prorating plans, have very largely discouraged purely speculative drilling of wildcat wells. 6—In some fields where good production is available, especially California, the properties are partly or fully shut down for conservation purposes, being owned by large companies financially able to do so.

"It is our opinion that the effect of these changes, all of which have taken place in the last three months, will soon evidence itself in a decline in the amount of crude and refined petroleum in stock.

"To state our conclusion more succinctly, we believe that by the end of December the decline in production will have progressed far enough to restore at least a condition of balance between production and consumption. With a revival of demand in anticipation of next year's automobiling season, therefore, it would be logical to expect a reduction of the amount of surplus crude oil beginning not later than next February or March."

Opinion of Eastern Broker

Petroleum Industry's Interest in Sales

Comparison of the Positions of the Petroleum and Automotive Industries and Contrast in Their Respective Policies

By Charles E. Bowles

The major function of the petroleum industry is to furnish gasoline to the motor vehicles of the world—and lubricating oil to its machinery.

In terms of today's development there is no substitute for gasoline for the motor vehicle's engine—and there is no substitute for the lubricating oil for machinery.

As for kerosene, gas oil, fuel oil, paraffin wax and coke, there are substitutes—hence the vital, fundamental fact of the petroleum industry is gasoline and lubricating oil.

And in terms of the industrial development of the world today, the major market for gasoline is the motor vehicle industry, while the market for lubricating oil is as universal as the use of machinery.

It is therefore obvious that the petroleum industry has two sets of problems' (1) Its own internal problems of producing crude oil, transporting it, refining it and marketing the products—and (2) its relation, as an industry, to other industries— primarily to the motor vehicle industry, and incidentally to the users of all of its other products.

The petroleum industry's efforts to solve its problems have, however, been confined almost entirely to solving its internal problems which have increased tremendously in the last 10 years. And yet, the industry's vital problem is today, and always will be, at the point where it meets the industries which it serves.

Industry's External Problem

Regardless of the importance of the production of crude oil, of transporting it, storing it and refining it, the fact remains that the oil industry faces its finale and its crucial problem when it passes its products to other industries and thereby establishes its standing among those indutsries. This is the strategic point at which the oil industry is entitled to receive a fair profit from the industries which it serves.

There is a wide difference between solving an industry's internal problems and solving its external problems. There is a wide difference between bringing an industry up to the point of tremendous production—and making that industry profitable, as an industry—not simply in some of its departments.

After long and careful investigation the committee headed by E. W. Marland found that the producing end of the industry had been procuring its raw material at a loss. And even though a few fortunate companies may have made large profits from their floods of flush production the fact remained that the producers, as a whole, were bringing oil to the surface of the ground at a loss.

While the numerous investigations of the last few years have revealed a few refineries that have made money, they have revealed far more that have not only failed to earn profits but have cut deeply into their capital assets.

And if we take the producing end of the oil business as a whole, the fact is very obvious that it has been operating at a loss. And if we take the refining end of the oil business, as a whole, the belief is almost unanimous that it has made little or no profits. And this in face of the very highest developed equipment for the drilling and operation of wells, of storage, of refining, of lower fractionation, of tube stills, cracking, natural gasoline, stabilization, blending, etc.

Mechanically Efficient

In other words the industry has made remarkable progress in solving its own internal problems—from a mechanical standpoint—from a quantity production standpoint—from a quality production standpoint.

It is producing about 2,000,000 barrels of oil a day. It has a potential refining capacity of almost 3,000,000 barrels a day and is actually using less than 2,000,000 barrels a day. The industry has developed a sort of "super-efficiency" in the production of crude oil and a "super-capacity" for refining it—with very serious consequences to the balance sheets of the producers and the refiners, as a whole.

Conceding that we have made marvelous progress in solving our first set of problems (our internal problems) from both a quantitative and a qualitative standpoint, but not from an economic standpoint, let us turn to the second set—our relation as an industry to other industries—and see how we compare with them—especially with the automobile industry.

In 1923 the automobile manufacturers made 3,694,000 cars. Deducting from the 90 listed manufacturers those who were in bankruptcy, receivership or in process of liquidation leaves 78 active manufacturers. Of these 78 active manufacturers 12 companies made 3,481,000 cars, or over 94 per cent—while 66 manufacturers made less than 6 per cent. Of these 12 manufacturers the 8 largest made 3,088 000 cars, or almost 84 per cent while the next 4 made over 393,000, or over 10 per cent.

These "Big 12" include Ford, General Motors, Willys-Overland, Durant, Hudson, Maxwell-Chalmers, Detroit-Paige and Chandler-Cleveland for the first eight that made 84 per cent—with Studebaker, Dodge, Nash and Hupp that made over 10 per cent.

Compared With Auto Industry

This list of the 12 largest manufacturers includes all of the companies making over 20,000 cars a year.

Turning from the manufacturers of cars to the producers of crude oil we find that our present production of close to 2,000,000 barrels a day comes from what has been generally conceded to be about 16,000 producers, although recent estimates have put the number as high as 25,000.

Accepting either of these figures, the fact remains that a relatively small number of companies produce the great bulk of the crude oil of the United States.

A survey of Oklahoma's production over the 3-year period from October 1, 1920 to September 30, 1923, showed that 12 companies produced 44 per cent of the crude, 24 other companies produced 21 per cent, while an average of over 1,350 producers supplied the remaining 35 per cent.

A similar survey of Texas' production for the period from January 1, 1923 to March 31, 1924, showed that 5 companies produced 49 per cent of the crude, 25 other companies produced 24 per cent, while an average of about 870 small producers supplied the remaining 27 per cent.

A survey of the $2,000 miles of pipe lines of the United States shows that 33 companies own 85 per cent of the total mileage.

A survey of the 574 refineries of the United States with a rated daily capacity of 3,000,000 barrels, showed that while 36 companies had about two-thirds of the total, their 2,000,000 barrels of capacity, with a negligible amount shut down, was practically equivalent to the daily throughput of all of the refineries in the country, thereby leaving a large part of the capacity of the remaining 442 refineries largely "potential."

Control of Each Industry

Of the approximately 2,000 cracking plants now in operation, about 1,600 are Burton type, installed at Standard refineries or licensed to independents. Today about 50 companies produce about 75 per cent of our natural gasoline.

Therefore when the petroleum industry, as a whole, is compared with the automobile industry, the control of the great bulk of each industry by a relatively few companies is the great outstanding fact.

Entirely ignoring all "socialistic" interpretation of this tnedency of capital to operate in big blocks, the efficiency and stabilizing influence of which have been demonstrated beyond all question, let us carry the parallel further with the automobile and the oil industries.

Up to the breaking out of the World War the automobile factories had never caught up with the market demand for cars. They were so busy building additions to their factories, working out engineering problems, factory organization problems, financing problems and a host of other problems that a driving, unsatisfied market forced upon them, that they gave little thought to the distribution end of the industry, as the word "distribution" is interpreted today.

In other words, up to the time of the World War, the market drove the factory. But times have changed. Today the factory is driving the market.

Adjusting Output

With output cut 50 per cent in 1918 by the war, the automobile plants started to swing the other direction in 1919 and 1920. In 1921 they shared in the deflation and depression that swept the country, but come back with a "super-efficiency' 'of output in the last two years—with 50 per cent more cars in 1923 than in 1922.

Up to five years ago the automobile factory's big problem was its internal problem—correlating and stabilizing its expansion, and catching up with its market.

Within the last five years however, the capacity of the automobile factories, as a whole, has been brought to the point that today the manufacturers and their dealers are keenly studying the "absorbing capacity" of the country for cars— and their production schedules are adjusted to that absorbing capacity.

In other words the automobile manufacturers are "playing ahead of the game," in the sense that they have built up an output capacity that, in the aggregate, is greater than the absorbing capacity of the country for cars.

In the face of this situation, which uncontrolled, would bring disaster to the industry as a whole, they have wisely set about the solution of the two problems that are vital to the stabilizing of the industry in the face of this surplus productive capacity: (1) They adjust their production schedules from month to month to suit the estimated absorbing capacity of their sales territory, having in mind the seasonal long stocks and short stocks in the hands of their dealers; (2) they control, either directly or indirectly the distribution of practically

(Continued on Page 80)

WHERE INDUSTRIES DIFFER

"If the manufacturers of automobiles, with a large surplus producing capacity, were to ignore the absorbing capacity of the public for cars, operate their factories at maximum capacity, push the cars onto the dealers, and the dealers in turn attempted to push them onto the public, the industry would become chaotic within less than six months.

"And yet the petroleum industry has done essentially this thing dozens of times in the last 65 years. It is today staggering under the burden of not only too much crude oil above ground but of a surplus of refined products that it can ill afford to carry and that it cannot afford to push onto the public without further demoralizing the market.

"If the producing end of the industry cannot be controlled and the marketing end of the industry is out of its control then the industry as a whole cannot hope for stable conditions."

Oklahoma Market Continues Strong

Firm or Advancing Prices in Gasolines and Fuel Oils. Kerosene Prices Lower. Concessions Given in Wax Quotations for Future Delivery

By C. O. Willson

The Group 3 (Oklahoma) refined market during the past week continued to display strength in most products. The market since the first of the month has been unusual in that several of the important products are quoted at flat prices. Most of the refiners in the State are asking 7½ cents for 58-60 U. S. Motor gasoline and $1 flat for 24-26 fuel oil. The same condition exists in several other refined products and for the first time this year all grades of natural gasolines are quoted without the usual ¼- or ½-cent spread.

Some see in this situation indications of weakness and others strength. In regard to gasolines most of the refiners do not seem to be in need of taking on additional orders for a few days at least and were refusing to give the resale agents the usual ¼-cent margin quoting the same to all. The marketers on the other hand have not been active since the first of the month, claiming they are unable to obtain from their customers the prices necessary to realize a small profit. Largely the same situation applies to fuel oil. Only limited quantities of this product are being offered on the spot market and this is generally being bought direct at a flat price of $1 for the 24-26 grade. Less and less natural gasoline was offered at the low price of a ¼-cent spread the latter part of last week and early Monday so far as Group 3 is concerned, the 7¼-cent Grade C and 7¾-cent Grade B practically disappeared so that the market was 7½ cents on Grade C, 8 cents Grade B, and 8¼ cents Grade A. The Tuesday market was inactive due to election and Monday's prices were not changed.

Hesitate About Advance

Despite the firm price situation in all grades of gasoline, refiners and natural gasoline manufacturers were not generally disposed up to Tuesday to advance their prices. New business at 7½ cents for 58-60 U. S. Motor gasoline was only fair and several refiners feared a dearth of buying if the price was advanced to 7¾ cents. These refiners stated they would wait until the end of the week before they arrived at a decision regarding a change in their spot prices.

The attitude of refiners in most cases is that they will keep their prices low enough during November to keep their current gasoline output moving to the trade. Several have stated they do not expect to store any gasoline before December while others will wait until after the first of the year. This position, in the opinion of market observers, means that the gasoline market trend in November will depend largely on weather condition throughout the Middle West. The month has got away to a good start in that regard and if it continues it is believed certain the current domestic demand from the jobbing trade alone will maintain at least firm prices over the month.

In addition there is a possibility that the export buyers will come into the field with purchases. During the past week there were inquiries from importers with definite offers for U. S. Motor and 64-66, 375 in North Texas. It is apparent export buyers are not yet convinced of the permanence of the recent advances in gasolines. Small purchases have been made in the North Texas area but the market generally has been too tight for them to obtain price concessions on large quantities. It is known certain exporters expect to be able to secure their supplies at lower prices after cold weather has brought a slump in the domestic demand and stocks begin to mount at the plants of refiners. They state that if they were to enter the market at this time with substantial purchases a runaway gasoline market would be the result, which in the end would probably drive both export and domestic buyers from the market.

Predicting the Trend

Any discussion as regards gasoline during the past week generally ended with predictions as to the probable trend over the remainder of the fall and winter months. As has been explained in these columns in recent issues there are those who are expecting a duplication of 1923 and 1924. This would mean higher crude prices in the near future with corresponding rapid advances in gasoline prices regardless of the seasonal slump in demand. The higher crude prices would, after the first of the year, bring a flood of crude which would be reflected in lower gasoline prices about the time the spring and summer demand for gasolines got under way.

So certain are some of the trade that the developments just outlined will materialize that it is a factor in today's market. One refiner during the past week stated that if the crude market started up before the first of the year he would store very little crude or gasoline. He and many others have suffered losses through these winter storage programs during the winter months of 1923 and 1924 when crude and gasoline prices were higher than they were at any other time of the year. This situation is also reflected in the attitude of buyers, according to these refiners. One large jobber in the Middle West when approached last month with a proposition to buy a considerable quantity of gasoline for storage, is said to have told the seller his plans called for a minimum of gasoline storage for the coming year and he would not store any material until after the first of the year when he could determine more definitely just what the gasoline and crude trend would be. In explanation of his attitude he produced data showing he had hardly broken even in his gasoline storage during the past year due to the fact that the market slumped before he could lower his storage in the spring.

Attitude on Storage

There is, of course, no way of determining just how general this attitude is on the part of refiners and jobbers. A few jobbers have been buying gasoline for storage ever since the first of October. Certain refiners as previously explained expect to begin storing gasoline next month. However, it is reasonable to assume, based on the known attitude of a few refiners and jobbers, that there will be a tendency to store less crude and gasoline, the volume being sufficient to have market importance.

Several market observers make this situation the basis of a prediction that there will be no "artificial" advances in crude and gasoline prices this winter. They believe the large, as well as the small concerns have been dissatisfied with developments as they have affected the Mid-Continent during the past two years and they will also give their support to slow advances in prices.

Gasolines and Naphtha

On Monday and Tuesday there was still a little 58 60 U. S. Motor gasoline available at 7¼ cents in Oklahoma, although most refiners were asking 7½ cents. Resale agents who could not purchase at 7¼ cents in Oklahoma were buying at that price in North Texas. Several marketers have gasoline which they purchased at 6¾ cents and 7 cents in October for November delivery. Some sales were made at 7¼ cents during the past week for delivery over the month, although the general asking price was 7½ cents regardless of whether it was for immediate or future delivery. Several refiners reported a brisk demand from jobbers at 7½ cents, while others stated the volume of business had slumped since their advance from 7¼ cents to 7½ cents. With favorable weather general throughout the consuming areas, it is believed buying will again pick up a day or two after the election.

The 60-62, 400 grade gasoline was moving direct to the trade at 8¾ cents. A few refiners are asking 9 cents and one marketer claimed he had purchased at 8½ cents. The same situation applied to the 64-66 grades. Refiners were generally obtaining 9½ cents flat from jobbers. Very little of the 68-70 grade is being offered. Due to the continued high prices prevailing for natural gasolines, refiners are using the higher fractions of their plant operations to blend with their naphthas and low gravity gasolines. Naphthas are unchanged.

REFINED MARKET BAROMETER

Gasolines and fuel oils were generally active in refined markets during the past week. Gasoline prices at the refineries are lower in California, a reflection of the recent reductions in tank wagon and service station prices in the West Coast area, but in other sections both export and domestic prices are generally firm or advancing. Natural gasolines are difficult to obtain both in the Mid-Continent and West Coast, the two main producing areas. Fuel oils are strong in the Mid-Continent and other interior points with higher prices prevailing. Kerosenes are weak with lower prices. No general changes in gas oils and distillates. The most active product in lubricating oils are the zero cold test neutrals. Wax prices are lower in the Mid-Continent and the East.

Mid-Continent—Straight run gasoline prices firm with natural gasolines slightly higher with relatively little available for immediate shipment. Fuel oils strong with higher prices in Oklahoma. Kerosene weak and prices lower in all refining areas. Distillates and gas oils slow. Little activity in lubricating oils. Wax prices for future delivery lower.

Atlantic Seaboard—Kerosene soft and prices lower. Gasolines and fuel oils improving with no general changes yet in refinery prices. Neutrals irregular with cylinder stocks firm and declines in red paraffin oils. Light filtered cylinder oils advanced ½ cent. Wax of lower melting points strong with prices higher. Lower prices on other grades. Active export movement of lubricating oils.

Pennsylvania—Improvement in demand for gasolines and prices higher. Kerosene soft. Fuel oil strong. Wax recovered from weakness of the previous week.

California—Gasoline and engine distillate prices lower following reduction in gasoline tank wagon and service station prices. Natural gasolines strong and prices firm. No changes in other products.

Gulf Coast—Lubricating oils steady with principal demand for 200, 300 and 500 viscosities. Gas oil active.

Chicago—Gasolines and fuel oils active with weather favorable for continued heavy consumption of gasolines. Kerosene sluggish and prices lower.

Practically all of the refiners of Oklahoma are securing $1 for their 24-26 fuel oil for immediate shipments and 5 cents to 10 cents more for Jelivery within the State. Only slight concessions are being given for the lower gravities. Gas oil is still sluggish with present prices above the level of the higher gravity fuel oils.

Contracts with railroads and other buyers are still being widely discussed. Definite offers have been received from the railroads, the percentage basis being approximately the same as this year's contract. In North Texas one railroad buyer has offered the refiners there 9[illegible] per cent of the posted price of crude above 36 degrees gravity. This is an advance over last year's contracts which were based on crude of 33 degrees to 35.9 degrees gravity. Two refiners are said to have accepted this offer.

Several refiners are undecided as to just what action to take in regard to contracts for another year. A few refused to accept the contracts offered last year and had cause for regret as the contract price in most instances will average higher than the spot price. However, it is generally felt that fuel oil spot prices will be relatively higher in 1925 than in 1924. This feeling is supported by the fact that bids on fuel oil contracts based on a flat price in other refining areas have been uniformly higher than last year. This indicates the major interests are expecting higher prices. The situation applies to fuel oil for delivery at both the West and East coasts.

Refiners in the Mid-Continent are not asking for a large advance in the contract prices, but believe they are entitled to at least 10 to 15 per cent increase over last year's basis.

Kerosene and Distillate

Kerosene and distillates are both sluggish. Sales of 41-43, water white kerosene were reported as low as 4½ cents in Oklahoma during the past week, although many are still asking 4⅝ cents to 4¾ cents. The 38-40 straw distillate sold as low as 3⅝ cents with little demand regardless of price. Apparently many refiners are storing both products, refusing to give price concessions in expectation of higher prices as soon as cold weather arrives. It is felt the cold weather will aid the distillate market although doubt is expressed if it materially aids the kerosene market. No export buying of kerosene is expected from this field until prices slump below their present levels.

Natural Gasolines and Blends

The situation in regard to natural gasolines has been previously explained. One large buyer during the past week said he found all the larger manufacturers sold up until the middle of November on the absorption grades. Even Grade C which has been offered more freely than the absorption grades for several weeks tightened up during the past week with 7½ cents the prevailing price for immediate shipment since Monday morning. Inquiries have been received for delivery over the latter half of the month but little trading has actually materialized except that placed in October for delivery over the entire month.

The blend market continues to improve. The higher gravities are bringing as high or higher prices than 58-60 U. S. Motor from northern buyers. The lower gravities which are generally sold within the State are ¼-cent to ½-cent lower than the high gravities.

Lubricating Oils and Wax

The export demand for cylinder stocks is aiding the refiners but the domestic demand for all lubs is still termed "slow." Competition among sellers is keen for

(Continued from Page 22)

South Vernon Pool Causes Excitement

Completion Reported Making 300 Bbls. Hourly Raises Visions of a Second Tonkawa. Field Has Possibilities

By C. D. Lockwood

Reports circulated in reliable quarters of Tulsa's oil fraternity about the middle of last week that a 300-bbl. an hour gusher was on a rampage as a result of deeper drilling in the South Vernon Field in northern Texas, caused officials of some large crude purchasing companies to shake their heads dubiously and express the fear that another Tonkawa had appeared to blast the industry's hopes for a fast approaching stability in the market.

Fortunately for the industry as a whole, the 300 bbls. an hour proved to be a wild estimate that was made when the well came in and was an exaggeration of something like 300 per cent. And while the South Vernon Field, located 24 miles west of Electra, was found to bear some physical resemblances to Tonkawa, and even outshines that famous field in the multiplicity of its oil producing sands, it apparently stands little chance of developing into a pool of similar proportions.

In the first place, the Vernon Pool is already defined on two sides, so far as the present producing horizons are concerned so that it will have to be long and narrow if it is to spread over a sizeable area. However, there is room between these failures for a producing area nearly a mile wide and the length may possibly stretch out for about 2½ miles. The possibilities for long-lived output are decreased somewhat by the fact that the big pay from which the two largest wells are producing is a sandy lime, lying directly below the brown oil sand which yields 400 to 700 bbls. daily in the other producers. The total production of the five oil wells in the lower strata averages around 4,000 bbls. daily so it is apparent that the field can easily break into the major class if the 20 wells now drilling and rigging up find production and extend the field as far as observers expect it to go.

Little Delay in Testing

The shallow depth of slightly more than 2,000 feet necessary to reach the rich level makes it possible to complete wells in short order, although the drilling is rather difficult for the first 1,000 feet or so, and also reduces the cost of operating, so it is probable that the field will be thoroughly tested on all sides without much delay, as soon as pipe line facilities warrant a campaign. About six weeks is sufficient to complete a test, counting delays in testing upper sands, and allowing for unforeseen contingencies, and the cost runs from $15,000 to $20,000. The gravity of the oil tests from 39 to 40 degrees.

For several years, geologists and production experts have believed that another oil pool, or more than one, would be discovered somewhere in the general northwest trend from the Electra region, and the maps of that part of the country are spotted with dry holes where futile efforts have been made to tap the hidden reservoir. The Texas Co. has conducted the most systematic and extensive search in this direction and many failures have been sunk by that concern at intervals of about a mile or so northwest of the Electra Pool.

In 1920, the famous Sigler well was brought in and was heralded far and wide as the forerunner of a great field, but dry holes were drilled around it and the boom which had been feverishly worked up in Vernon as a result of it flattened out with a smash. This well was about 3 miles south of the present field and about 12 miles south of the town of Vernon.

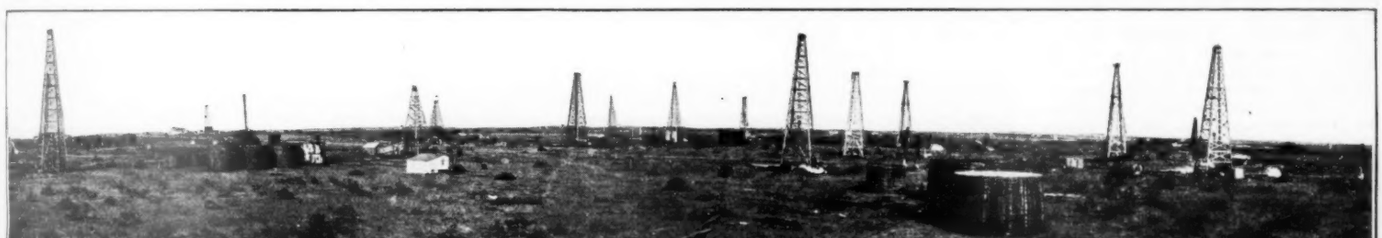
About a year ago, the well which resulted in the discovery of the present field was drilled. It was put down by the Zacaquiesta Oil Co., a local concern, and was situated about half a mile northwest of the present field. It seems that the name of the company originated with the Zacaquiesta ranch which lies to the south about 6 miles, and is an old Indian name meaning "Running Water." The peculiar appropriateness of the title was not realized until the well was drilled to 2,624 feet where it encountered water and a good oil showing was drowned out. From the top of lime at 2,576 feet to a total depth there were constant oil showings and the drillers were convinced that a pool would be found somewhere in the vicinity.

Many Producing Sands

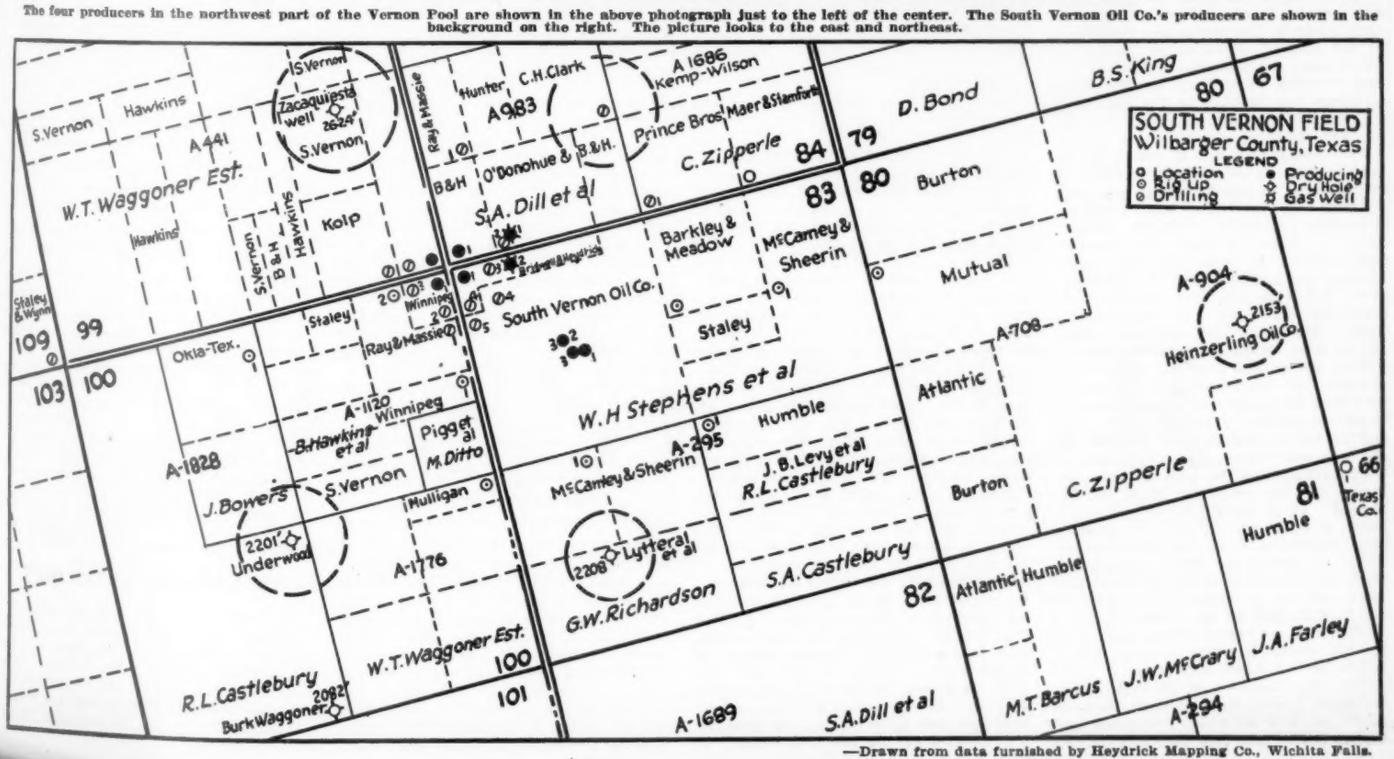
Another test drilled near the center of the southwest quarter of Section 83 convinced local men that the pool laid between the two, and as a result, the South Vernon Oil Co. commenced its No. 1 Stephens in the center of the northwest quarter of Section 83. The well was begun June 26, 1923, and was completed on January 14 of this year for 100 bbls. from sand at 1,967-77 feet, the production later settling to about 70 bbls.

A feature of this well was the number of oil producing sands drilled through, the 100-bbl. output coming from

(Continued on Page 114)



The four producers in the northwest part of the Vernon Pool are shown in the above photograph just to the left of the center. The South Vernon Oil Co.'s producers are shown in the background on the right. The picture looks to the east and northeast.



—Drawn from data furnished by Heydrick Mapping Co., Wichita Falls.

Depletion Clause and Common Sense

Nothing Mysterious About It Despite Popular Misconception. Means Costs Must Be Obtained Before Profits Are Realized.

By W. A. W. Krebs
Assistant Treasurer Lorraine Companies

There is nothing occult or mysterious about the depletion of oil reserves, yet there seems to be a popular misconception which is worthy of an effort to clarify.

The term "depletion" came into general use in the oil industry through the Federal Income Tax Law. Prior to that, the average producer of oil gave little thought to accounting for the using up of his crude supply. It is true that he, where alive to the interests of his company, looked forward, and secured additional oil acreage, in an attempt to provide for future production. He was cognizant of the fact that his stock-in-trade was constantly decreasing, and in order to remain in business, must provide additional sources; but as to calling this diminution of supply by the term "depletion," and setting it up in his accounting records, it was not even considered. When, for his own protection, the tax law forced this on the producer, he acted toward the "depletion clause" very largely as he did toward the balance of the law, at that time; threw up his hands and swore at the apparent complexity of the thing. Even today, many producers are still refusing to clarify in their own minds the very evident fact that they cannot produce the oil and keep it in the ground, at the same time.

To illustrate: A merchant buys a stock of goods which he places on his shelves, or in his warehouse. Through the ordinary channels of trade he disposes of his wares to his customers, exchanging his goods for money, or its equivalent, and thus diminishes his stock of goods. This act, of selling the goods, requires that he take from his warehouse, from time to time, additional supplies—and thus constantly "depletes" the goods on hand. New merchandise must be purchased to replace the diminishing stock.

Like Goods in Warehouse

The producer of crude at first purchases a supply of crude in the ground—his goods in the warehouse, purchased for the purpose of selling at a profit—and through the activities of his drillers, lease foreman, roustabouts and laborers, he brings his "goods" to his customer, the pipe line company. The fact that he may buy the lease at a low price, gambling on whether or not it will produce, and the quantity of crude he is going to have to sell, he has in the underground reservoir—his warehouse—a fixed and determinable quantity (within narrow limits of error) of goods for sale—so many barrels of crude oil, from which he must get back the cost (or purchase price) before he can make a profit. In producing his crude, he depletes his stock, exactly as the merchant does, and he must regard every barrel of crude sold as costing him a certain price. For example, his engineers may determine that from this particular property he will be able to produce 1,000,000 bbls. of crude and he knows that he paid $80,000 for the leasehold rights; and it is immediately evident that he paid 8 cents per barrel for the crude in place in the ground. If it costs him 40 cents per barrel to drill sufficient wells to produce this quantity of crude, and 35 cents per barrel to operate the lease, produce the crude and deliver it to the pipe line company, then it is evident that his costs are 8 cents, plus 40 cents, plus 35 cents, or 83 cents per barrel, plus a portion of general overhead, which he must obtain before he can secure any profit.

The above facts are so self-evident that it seems foolish to reproduce them in print, yet, is it not a fact that many producers fail to take into their calculations the 8 cents of original cost? The reason for this is that the determination of the quantity of crude in the underlying sands has, until recent years, been treated as an undeterminable quantity, and the margin of profit has been large enough to absorb this cost, and make a goodly profit over and above. In fact, the business, on properties where results were satisfactorily obtained, was seemingly, of such a remunerative character, and the problem of determining oil reserves seemed so complex, that the average producer could not, or would not see the necessity of determining unknown reserves, when profits were apparently beyond costs.

Necessity of Deduction

The necessity of securing the deduction for depletion to which the producer is entitled under the Federal Income Tax Law has modified this attitude to the extent that now, at least, some attempt is made to have underground recoverable reserves computed. Today, in most cases, trained engineers make their determination in order that the greatest possible exactitude may be had. And these determinations are carefully checked by the valuation division of the Tax Department of the Government in order that justice may be done to all concerned.

Reverting to our former illustration, the merchant, in making calculations for the determination of his profits, will deduct from his sales the original cost of the goods sold, thus determining gross profit. Then, next, he will deduct his handling and delivering expenses, administrative and general expense, the final result being his profit.

For the reason that, for years, he was at a loss as to how to determine his underground recoverable oil reserves, the producer of crude oil left off the first step in the determination of his profits. That is, he failed to deduct the original purchase cost of the oil he sold. When the Government, through the vehicle of the tax law, insisted upon the determination of depletion in order that the producer might not be penalized by the taxing of the return of his capital, he (the producer) then continued his method of figuring earnings but adding at the end of his calculations a deduction for depletion. And he has continued this method right along to the present time. Of course the final result is the same, no matter at what part of the calculation the deduction for depletion is made, but this practice has resulted in erroneous ideas of earnings, for the reason that the non-thinking man, be he producer, director, officer, or stockholder, has stuck to the idea that profit is shown by the result before the deduction for depletion has been made. and that this latter amount is deducted only because the tax law is mandatory as to placing it upon the books if the benefit is to accrue to the taxpayers.

Profit Ignoring Cost

How we would jibe at the merchant who would publish a statement saying he had "profits of $100,000 for the period ending March 31, without considering the cost of the goods sold." Yet, it is not a fact that some of our oil comapnies have released for publication statements showing earnings "before deducting depletion and taxes?" And how very rarely we see, if ever, the published statement after such deductions have been made.

There can be little question that the first deduction from selling price should be the amount paid for the oil. It may sound revolutionary to the oil accountant, but we should set up our statement of earnings along the lines similar to that of the merchant; stating first the gross sales, from which should be deducted depletion (purchase cost of oil sold) the result being gross profits on sales, and from this result will be deducted all lifting and production costs, including depreciation, then last the overhead costs. This procedure, in line with good accounting practice, would do much to clarify, in the minds of all, that depletion is actual and real, being but the return of capital through sale of the oil originally purchased.

In order to impress the fact that depletion is the first element of cost in oil production, the writer has, for several years past, in making statements of costs of crude production, supplemented these statistical statements with a graphic representation (See Chart A), and has found that this procedure has the advantage of simplicity, and reaches the interested mind through visualization with little effort. The arrangement of the elements of cost as shown on the chart tends to impress the fact that depletion actually is the first cost element in a logical sequence of necessary costs prior to realization of profit. It has been found that officers and directors are very receptive to this form of statistical summary as it saves them both time and effort in grasping the facts desired to be conveyed.

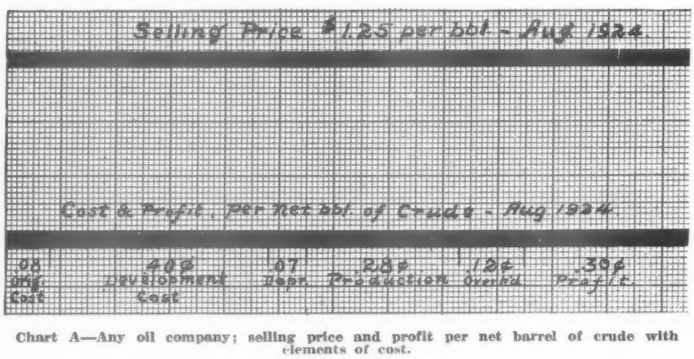

Selling Price $1.25 per bbl - Aug 1924
Cost & Profit per Net bbl of Crude - Aug 1924
.08 Orig. Cost
.40 Development Cost
.07 Depr.
.28 Production
.12 Overhd.
.30 Profit

Chart A—Any oil company; selling price and profit per net barrel of crude with elements of cost.

Depletion on Appreciation

The foregoing deals exclusively with depletion on cost. There is another phase of depletion, however, which should be considered; that of "Depletion on Appreciation Due to Discovery." Appreciation of leasehold value having been set upon the books of account by proper charge to the affected asset and contra credit, the additional asset value thus created must, of necessity, lose in value as the oil reserves are depleted by the production of crude. In this case, every barrel of crude produced carries not only a portion of the original cost value to be returned but also a portion of appreciated value which must be deducted. While the tax law, by its limitation on the amount of depletion that may be used as a deduction for depletion on appreciation due to discovery, may prevent the using of the full amount deducted as a "depletion allowance" for tax purposes, yet it is none the less necessary to make this deduction in its entirety in order that proper record of the depletion sustained may be reflected in the accounting records and the appreciated asset be thus constantly reduced by the sustained depletion.

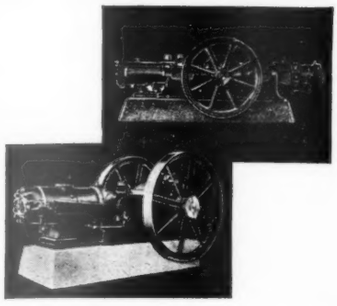
It seems to be the practice, in the great majority of cases where appreciation, due to discovery has been set up on the books, to enter the contra credit on the records as a surplus account under a caption such as "Surplus Due to Appreciation by Discovery," or some similar title. This labeling of the credit account as a "surplus" looks innocent enough, and if properly guarded may prove all right, but it is a rather dangerous practice, for once a balance has been passed to a surplus there is no logical obstacle to its use in paying dividends. It is reprehensible, to say the least, for dividends to be paid from a balance which represents a value that must all be wiped out in time by the depletion as it is sustained. It certainly would seem much safer for the accountant in making this credit on his records to properly tab it as "Unrealized Appreciation Due to Discovery," and then, as it its realized through the depletion sustained, make the charges against it with the correct credit to corresponding reserve account, leaving the balance in the account to correctly reflect at all times the yet unrealized portion of the appreciation which had been set up by reason of the discovery. This mere change in captions, simple, though it may seem, if used throughout statements rendered to officers and directors will do much to disabuse their minds of any thought that appreciation is a real surplus and will possibly save capital impairment.

Not Fictitious Creation

The writer does not agree entirely with the method prescribed by the tax law and promulgated regulations as to their equity in the determination of profits from oil and gas producing properties. However, the fact to be emphasized under all conditions, regardless of taxes and tax laws, is that depletion is not a fictitious creation, but is a reality, being in value but that portion of receipts from the sale of each barrel of oil which represents the original cost of that barrel of oil in place in the ground as originally purchased. It is a vital factor in the determination of profits. It means exactly what the name implies—a diminution of crude supply—and the depletion allowance of the tax law is but a deduction to cover the return of that portion of capital which has been invested in oil reserves on which investment no tax is intended by the Federal Income Tax Law.

OIL REGION MUSICIAN DIES

TITUSVILLE, Pa., Nov. 1.—John F. Coleman, aged 79, dropped dead while playing a violin at a reception at the Presbyterian church. Mr. Coleman was well known throughout the Pennsylvania oil regions as the founder and for many years the leader of the Coleman band and orchestra.

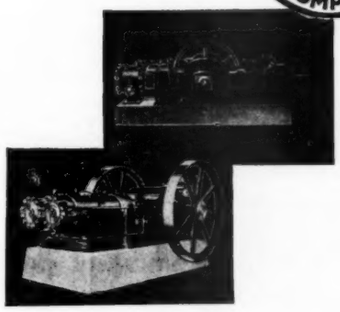


ASK

—the man in the home office which engines in his company's gasoline plants show up the *best in the monthly reports.*

—the district superintendent which engines cause him the *least trouble in the course of a year.*

—the engineer on the job which engines *make his job easiest*



And the answer in an overwhelming majority of cases will come back

BESSEMER

BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

THE BESSEMER GAS ENGINE COMPANY 52 YORK STREET, GROVE CITY, PA.

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

CHICAGO DIST. (Based on Group 3)—	Nov. 4		Oct. 28		Oct. 21	
50-52 450 end point (Naphtha)	.06¾	.07	.06¼	.06½	.06¼	.06½
56-58 450 end point	.07¼	.07½	.06¾	.07	.06¼	.06½
58-60 437 end point (U. S. Motor)	.07½	.07¾	.07¼	.07½	.07	.07¼
60-62 400 end point	.08¾	.09	.08½	.08¾	.08¼	.08½
64-66 375 end point	.09¾	.10	.09½	.09¾	.09¼	.09½
68 70 360 end point	.10½	.10¾	.10¼	.10½	.10¼	.10½
OKLAHOMA (Group 3)—						
50-52 450 end point (Naphtha)	.06½	.06¾	.06½	.06¾	.06¼	.06½
56-58 450 end point	.06¾	.07	.06¾	.07	.06½	.06¾
58-60 437 end point (U. S. Motor)	.07¼	.07½	.07¼	.07½	.07	.07¼
60-62 400 end point	.08¾		.08¾	.09	.08½	.08¾
64-66 375 end point	.09½		.09½	.09¾	.09¼	.09½
68-70 350 end point	.10¼	.10½	.10¼	.10½	.10¼	.10½
KANSAS—						
58-60 437 end point (U. S. Motor)	.07½	.07¾	.07½		.07	.07¼
NORTH TEXAS—						
48-52 450 end point (Naphtha)	.06½		.06¼	.06½	.06¼	
50-52 440 end point (Naphtha)	.06½	.06¾	.06½		.06¼	.06½
56-58 450 end point	.06¾	.07	.06¾	.07	.06½	.06¾
58-60 437 end point (U. S. Motor)	.07¼	.07½	.07¼	.07½	.07	
60-62 400 end point	.08¾		.08¼	.08¾	.08¼	.08½
64-66 390 end point	.09	.09¼	.08¾	.09	.08¾	.09
64-66 375 end point	.09¼	.09½	.09¼	.09½	.09	.09¼
68-70 360 end point	.10	.10¼	.10	.10¼	.10	
NORTH LOUISIANA—						
56-58 450 end point	.07¼	.07½	.07¼	.07½	.07	
58-60 437 end point (U. S. Motor)	.07½	.08	.07½	.08	.07¼	.07½
60-62 400 end point	.09	.09¼	.09	.09¼	.08¾	.09
64-66 390 end point	.09¼	.09½	.09¼	.09¾	.09¼	.09½
64-66 375 end point	.09½	.09¾	.09¾		.09½	.09¾
ARKANSAS—						
58-60 450 end point	.07½	.07¾	.07¼	.07½	.07	
58-60 437 end point (U. S. Motor)	.07¾		.07½	.07¾	.07¼	.07½
64-66 375 end point	.09¾		.09¾		.09½	.09¾
ROCKY MOUNTAIN STATES—						
*58-60 437 end point (U. S. Motor)	.10¼	.10½	.10¼	.10½	.10	.10¼
PENNSYLVANIA—						
52 Naphtha	.09		.09		.09	
54 Naphtha	.09¼		.09		.09	
56 Gasoline	.09½		.09½		.09½	
58 Gasoline	.10¼		.09¾		.09¾	
60 Gasoline	.11		.10¾		.10½	
62 Gasoline	.11¾		.11½		.11¼	
64 Gasoline	.12¼		.12¼		.11¾	
66 Gasoline	.15¼		.15¼		.15¼	
68-70 Gasoline	.17		.17		.17	
CALIFORNIA—						
54-56 437 end point (U. S. Motor) domestic	.09	.09½	.11	.12	.11	.12

*Colorado points.

NATURAL GASOLINE

CHICAGO DIST. (Based on Group 3)—	Nov. 4		Oct. 28		Oct. 21	
Grade Double A, 80-87.9 375 e.p., rec. 90%	.08¼	.08½	.08	.08¼	.08	.08¼
Grade A, 72-79.9, 375 end point, rec. 90%	.08¼	.08½	.08	.08¼	.08	.08¼
Grade Double B, 84-92, 375 e.p., rec. 85%	.08	.08¼	.07¾	.08	.07¾	.08
Grade B, 76-83.9. 375 end point, rec. 85%	.08	.08¼	.07¾	.08	.07¾	.08
Grade C, 80-90, 375 end point, rec. 78%	.07½	.07¾	.07¼	.07½	.07¼	.07½
OKLAHOMA (Group 3)—						
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.08¼		.08¼		.08	.08¼
Grade A, 72-79.9, 375 end point, rec. 90%	.08¼		.08¼		.08	.08¼
Grade Double B, 84-92, 375 e.p., rec. 85%	.08		.07¾	.08	.07¾	.08
Grade B, 76-83.9, 375 end point, rec. 85%	.08		.07¾	.08	.07¾	.08
Grade C, 80-90, 375 end point, rec. 78%	.07½		.07¼	.07½	.07¼	.07½
NORTH TEXAS—						
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.08¼		.08	.08¼	.08	
Grade A, 72-79.9, 375 end point, rec. 90%	.08¼		.08	.08¼	.08	
Grade Double B, 84-92, 375 e.p., rec. 85%	.07¾	.08	.07¾	.08	.07¾	
Grade B, 76-83.9, 375 end point, rec. 85%	.07¾	.08	.07¾	.08	.07¾	
Grade C, 80-90, 375 end point, rec. 78%	.07¼	.07½	.07¼	.07½	.07	.07½
NORTH LOUISIANA—						
Grade B, 76-83.9, 375 end point, rec. 85%	.08¼	.08½	.08¼	.08½	.08¼	.08½
Grade C, 76-82, 375 end point, rec. 85%	.07½	.07¾	.07½	.07¾	.07½	.07¾
CALIFORNIA—						
68-80 absorption, 360-390 end point	.10½	.11	.10½	.11	.10½	.11
78-84 compression, 350 end point	.13		.13		.13	

MOTOR NATURAL GASOLINE (BLEND)

CHICAGO DIST. (Based on Group 3)—	Nov. 4		Oct. 28		Oct. 21	
68-70 437 end point	.07¼	.07½	.07¼	.07½	.07	.07¼
60-62 450 end point	.07¼	.07½	.07	.07¼	.07	.07¼
64 66 450 end point	.07	.07¼	.06¾	.07	.06¾	.07
OKLAHOMA (Group 3)—						
60-62 450 end point	.07¼	.07½	.07		.07	
64-66 437 end point	.07½	.07¾	.07¼		.07¼	
68 70 430-435 end point	.07½	.07¾	.07¼		.07¼	
NORTH TEXAS—						
58-62 440 end point	.07¼	.07½	.07	.07¼	.06¾	.07
58-60 450 end point	.07¼	.07½	.07	.07¼	.06¾	.07
PENNSYLVANIA—						
*60-62	.11		.10½		.10½	
*64 66	.11		.10½		.10½	
*66 68	.11		.10½		.10½	
*68-70	.11		.10½		.10½	

*At Sistersville, W. Va.

BURNING OIL

CHICAGO DIST. (Based on Group 3)—	Nov. 4		Oct. 28		Oct. 21	
41-43 water white Kerosene	.04½	.04¾	.04¾	.04⅞	.04¾	.05
42-44 water white Kerosene	.04¾	.05	.04⅞	.05	.04⅞	.05⅛
NORTH LOUISIANA—						
41-43 prime white Kerosene	.04¾	.05	.04¾	.05	.05	.05⅛
42-44 water white Kerosene	.05	.05¼	.05	.05¼	.05¼	.05⅜
KANSAS—						
41-43 water white Kerosene	.04¾	.04⅞	.04⅞	.05	.05	
ROCKY MOUNTAIN STATES—						
*40-42 water white Kerosene	.08¼	.08½	.08¼	.08½	.08¼	.08¾
NORTH TEXAS—						
41-43 water white Kerosene	.04½	.04¾	.04½	.04¾	.04½	.04¾
41-43 prime white Kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04¾
40-42 prime white Kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04¾
42-44 water white Kerosene	.04⅝	.04¾	.04⅝	.04⅞	.04¾	.05
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04½	.04¾	.04⅝	.04¾	.04⅝	.04¾
42-44 water white Kerosene	.04¾	.04⅞	.04¾	.05	.04⅞	.05
41-43 prime white Kerosene	.04¼	.04½	.04½	.04⅝	.04½	.04¾
ARKANSAS—						
41-43 water white Kerosene	.04¾	.05	.05		.05	.05⅛
42-44 water white Kerosene	.05	.05⅛	.05⅛	.05⅜	.05¼	.05⅝
PENNSYLVANIA—						
43 Kerosene prime white	.07		.07		.07	
45 Kerosene water white	.07¼		.07¼		.07¼	
46 Kerosene water white	.07¾		.07¾		.07¾	
47 Kerosene water white	.08		.08		.08	
34 Neutral	.09		.09		.09	
34 Sundebloomed Neutral	.07¾		.07¾		.07¾	
36 Miners' Neutral	.06½		.06½		.06½	
300 Mineral Seal	.07½		.07½		.07½	
CALIFORNIA—						
40-42 water white (high burning test)	.07½	.08	.07½	.08	.07½	.08
Engine distillate, 43-45 445 end point	.06½	.07	.08½	.09	.08½	.09
Engine distillate, 42-44 480 end point	.06	.06¼	.07½	.07¾	.07½	.07¾

*Colorado points.

FUEL OILS

CHICAGO DIST. (Based on Group 3)—	Nov. 4		Oct. 28		Oct. 21	
24-26 Fuel Oil (sellers' Group 3)	.97½	1.02½	.95	1.00	.95	
22-24 (El Dorado)	1.00		.95	1.00	.90	.95
18-20 (Smackover)	.95	1.00	.95		.92½	.97½
32-36 Gas Oil	.02¾	.02⅞	.02⅞	.03	.02¾	.03
38-40 Straw distillate	.03¾	.04	.03¾	.04	.03¾	.04
KANSAS—						
24-26 Fuel Oil	1.10		1.10		1.05	1.10
32-36 Gas Oil	.03	.03⅛	.03⅛	.03¼	.03⅛	.03¼
38-40 Distillate	.03¾	.04	.03¾	.04	.03¾	.04
OKLAHOMA (Group 3)—						
22-26 Fuel Oil (sellers' cars)	.97½	1.00	.95		.90	.92½
24-26 Fuel Oil (buyers' cars)	.95	1.00	.92½	.97½	.90	.92½
24-26 Fuel Oil (sellers' cars)	1.00		.95	1.00	.92½	.95
28-30 Fuel Oil (sellers' cars)	1.10		1.05	1.10	1.00	1.05
32-36 Gas Oil	.02¾	.02⅞	.02⅞	.03	.02⅞	.03
38-40 Straw distillate	.03⅝	.03¾	.03¾	.03⅞	.03¾	.03⅞
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	.95	1.00	.95	1.00	.92½	.97½
26-30 Fuel Oil	1.05	1.10	1.05	1.10	1.05	
32-36 Gas Oil	.02⅝	.02¾	.02¾	.03	.02¾	.03
36-38 Gas Oil	.03	.03¼	.03	.03¼	.03¼	
38-40 Straw distillate	.03⅝	.03¾	.03¾	.03⅞	.03¾	.03⅞
NORTH LOUISIANA—						
18-20 Fuel Oil	.95	1.00	.95	1.00	1.00	
32-36 Gas Oil	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼
36-40 Distillate	.03⅝	.03¾	.03⅝	.03¾	.03⅝	.03¾
ARKANSAS—						
38-40 Distillate	.03¾	.04	.03¾	.04	.03¾	.04
32-36 Gas Oil	.03	.03¼	.03	.03¼	.03	.03¼
22-26 Refinery Fuel Oil	.95	1.00	.95	1.00	.95	1.00
GULF COAST (South Texas)—						
Gas Oil	.04½	.05	.04½	.05	.04½	.05
Fuel Oil	1.50	1.60	1.50	1.60	1.50	1.60
PENNSYLVANIA—						
30-34 Fuel Oil	.05		.05		.05	
36-40 Fuel Oil	.05¼		.05¼		.05¼	
CALIFORNIA—						
33-36 Distillate	.04	.04½	.04	.04½	.04	.04½
27-33 Distillate	.03¾	.04	.03¾	.04	.03¾	.04
15-20 Fuel Oil (at tide water)	1.40		1.40		1.40	

NEUTRAL OILS

OKLAHOMA (Group 3)—	Nov. 4		Oct. 28		Oct. 21	
70-80 vis., 2½ color, 20-25 cold test	.04	.04½	.04	.04½	.04	.04½
100 vis., 2 color, 20-25 cold test	.04½	.05	.04½	.05	.04½	.05
100 vis., 3 color, 20-25 cold test	.04	.04½	.04	.04½	.04	.04½
150 vis., 3 color, 20-25 cold test	.07	.07½	.07	.07½	.07	.07½
150 vis., 4 color, 20-25 cold test	.06½	.07	.06½	.07	.06¼	.07
180 vis., 4 color, 23-28 cold test	.08	.08½	.08	.08½	.08	.08½
180 vis., 3 color, 23-28 cold test	.08½	.09	.08½	.09	.08½	.09
200 vis., 3 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
200 vis., 4 color, 23-28 cold test	.09½	.10	.09½	.10	.09½	.10
220 vis., 3 color, 25-30 cold test	.11½	.12	.11½	.12	.11½	.12
220 vis., 4 color, 25-30 cold test	.10¾	.11½	.10¾	.11½	.10¾	.11½
240 vis., 3 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
240 vis., 4 color, 25-30 cold test	.12¾	.13¼	.12¾	.13¼	.12¾	.13¾
280 vis., 3 color, 25-30 cold test	.16½	.17	.16½	.17	.16½	.17
280 vis., 4 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15½
Red Neutrals:						
180 vis., 5 color, 23-28 cold test	.07½	.08	.07½	.08	.07¼	.08
180 vis., 6 color, 23-28 cold test	.12¼	.12¾	.12¼	.12¾	.12¼	.12¾
200 vis., 5 color, 23-28 cold test	.09	.09½	.09	.09½	.09	.09½
200 vis., 6 color, 23-28 cold test	.13	.13½	.13	.13½	.13	.13½
220 vis., 5 color, 25-30 cold test	.10	.10½	.10	.10½	.10	.10½
220 vis., 6 color, 25-30 cold test	.14¼	.14¾	.14¼	.14¾	.14¼	.14¾
240 vis., 5 color, 25-30 cold test	.12	.12½	.12	.12½	.12	.12½
240 vis., 6 color, 25-30 cold test	.15¼	.15¾	.15¼	.15¾	.15¼	.15¾
280 vis., 5 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
180-200 vis., S, R. green, 40-45 cold test	.07	.07½	.07	.07½	.07	.07½
190-200 dark green, 40-45 cold test	.06	.06½	.06	.06½	.06	.06½

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

170-190 dark green, 40-45 cold test	.05¾	.06	.05¾	.06	.05¾	.06
600, E filtered	.20	.21	.20	.21	.20	.21
190-200 vis. @ 210 "D" Bright Stock	.34		.34		.34	
200-210 vis. @ 210 "E" Bright Stock	.29		.29		.29	
150 vis. @ 210 "D" Bright Stock	.30		.30		.30	
150 vis. @ 210 "E" Bright Stock	.26		.26		.26	
Waxes:						
124-126 White Crude Scale Wax	.04⅞	.05⅛	.05¼	.05½	.05¼	.05½
PENNSYLVANIA—						
150, 3 color	.16½		.16½		.16½	
180, 3 color	.18½		.18½		.18½	
200, 3 color	.21½		.21		.21	
220, 3 color	.23		.23		.23	
600, steam refined	.19		.19		.19	
635, steam refined	.23		.23		.23	
650, steam refined	.24½		.24½		.24½	
600, Pennsylvania flash	.29		.29		.28	
630, Pennsylvania flash	.36		.36		.33	
*550, E filtered	.19¼		.19¼		.19¼	
*600, E filtered	.22		.22		.23½	
600, E filtered	.22½		.22½		.22½	
600, D filtered	.28		.28		.28	
550, E filtered	.20		.20		.20	
550, D filtered	.24		.24		.24	
Pennsylvania Bright Stock	.35		.35		.35	
†122-124 White Crude Scale Wax	.05⅜		.05⅜		.05¾	
*122-124 White Crude Scale Wax	.05½		.05½		.05⅞	

*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—						
Zero Black	.06½	.07	.06½	.07	.06½	.07
No. 2 color, 100 vis., pale oil	.08½	.09½	.08½	.09½	.08½	.09½
No. 2 color, 150 vis., pale oil	.10½	.11½	.10½	.11½	.10½	.11½
No. 3 color, 200 vis., pale oil	.12½	.13½	.12½	.13½	.12½	.13½
No. 3 color, 300 vis., pale oil	.15	.16	.15	.16	.15	.16
No. 3½ color, 500 vis., pale oil	.17	.18	.17	.18	.17	.18
No. 3½ color, 750 vis., pale oil	.22½	.23½	.22½	.23½	.22½	.23½
No. 4½ color, 1200 vis., pale oil	.24½	.25½	.24½	.25½	.24½	.25½
No. 4½ color, 2000 vis., pale oil	.29½	.30½	.29½	.30½	.29½	.30½
No. 1½ color, 150 vis., pale filtered	.21½	.22½	.21½	.22½	.21½	.22½
No. 2 color, 200 vis., pale filtered	.22½	.23½	.22½	.23½	.22½	.23½
No. 3 color, 300 vis., pale filtered	.25½	.26½	.25½	.26½	.25½	.26½
No. 3½ color, 500 vis., pale filtered	.30½	.31½	.30½	.31½	.30½	.31½
No. 3½ color, 750 vis., filtered	.40½	.41½	.40½	.41½	.40½	.41½
No. 5 to 6 color, 200 vis., red oil	.11	.12	.11	.12	.11	.12
No. 5 to 6 color, 300 vis., red oil	.13½	.14½	.13½	.14½	.13½	.14½
No. 5 to 6 color, 500 vis., red oil	.15	.16	.15	.16	.15	.16
No. 5 to 6 color, 750 vis., red oil	.19½	.20½	.19½	.20½	.19½	.20½
CALIFORNIA—						
200 vis., 2½-3 color	.15	.16	.15	.16	.15	.17
300 vis., 2 -4 color	.15	.17	.15	.17	.16	.19
350 vis., 3½-4 color	.17½	.18½	.17½	.18½	.17½	.20
400 vis., 4 -4½ color	.19	.20	.19	.20	.19	.20
Red Neutrals:						
200 vis., 4½-5 color	.13	.14	.13	.14	.13	.14
300 vis., 5 -6 color	.14	.16	.14	.17	.14	.17
400 vis., 5 -6 color	.16	.17	.16	.18	.16	.18
500 vis., 6 -6½ color	.17	.18	.17	.18	.17	.18
600 vis., 9½ plus	.18	.19	.18	.21	.18	.21

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK DOMESTIC MARKET

	Nov. 4	Oct. 28	Oct. 21
Motor Gasoline:			
Spot Gasoline, Bayonne	.10	.10	.10
V. M. P. Naphtha, in steel barrels	.14	.15	.15
Lubricating Oil (Industrial) at refinery, Bayonne, N. J.:			
Cylinder, extra light filtered, in barrels	.44½	.44½	.44½
Cylinder, light filtered, in barrels	.38½	.38	.38
Cylinder, Bright Stock	.48½	.48½	.48½
Cylinder, steam refined (600)	.30½	.30½	.30½
Black, in bulk	.11	.12	.12
Bloomless, white, 30-31 gravity, 170 vis.	.44	.44	.44
Bloomless, 885 specific gravity	.16½	.16½	.16½
Red Paraffin:			
170 viscosity	.21	.22	.22
212 viscosity	.22	.23	.23
265 viscosity	.23	.24	.24
295 viscosity	.25	.26	.26
Paraffin, 903 specific gravity	.28	.31	.31
*Fuel Oil:			
Bunker Oil, 14 plus:			
October 25 to November 1, 1924, per bbl., 1.75			
Diesel Oil, at refinery, barrel	2.00	2.00	2.00
Furnace Oil, tank wagon, gallon	.10	.10	.10
Gas Oil, delivered in New York	.05	.05	.05
Wax, fully refined:			
120-122 a.m.p.	.06	.05⅝	.05⅝
125-127 a.m.p.	.06½	.06	.06
130-132 a.m.p.	.06½	.06½	.06½
135-137 a.m.p.	.07¼	.07¾	.07¾

*Lighterage 6.5c a barrel extra.

NEW YORK EXPORT PRICES

	Nov. 4	Oct. 28	Oct. 21
Motor Gasoline, in cases, gallon	.26.14	.26.14	.26.14
Motor Gasoline, U. S. Navy, spec. gallon	.12 25	.12.25	.12.25
Naphtha, 60° F., 59 61 spec. grav.	.13.25	.13 25	.13.25
Naphtha, 60° F., 63-66 spec. grav.	.14.5	.14.5	.14.5
Naphtha, 60° F., 66-68 spec. grav.	.16.0	.16.0	.16.0
Kerosene:			
Standard white, in bulk	.06½	.06¼	.06½
Standard white, in barrels, gallon	.13½	.13½	.13½
Standard white, in bulk, gallon	.16.9	.16.9	.16.9
Water white, in cases, gallon	.07½	.07½	.07½
Water white, in barrels, gallon	.14½	.14½	.14½
Water white, in cases, gallon	.17.9	.17	.17

LOS ANGELES EXPORT PRICES

	Nov. 4		Oct. 18		Oct. 21	
Kerosene:						
Water white	.05	.05½	.05	.05½	.05	.05½
U. S. Motor gasoline, 54-56, 437 end point	.09	.09½	.09	.09½	.09	.09½

CRUDE OIL PRICES

October 4.—Magnolia Petroleum Co. adopted the Prairie Oil & Gas Co. prices for Oklahoma, North Texas and Kansas for crude below 33 degrees gravity. No change was made in its schedule above 33 degrees gravity.

October 6.—Standard Oil Co. of Louisiana adopted a two-gravity schedule for Smackover, Ark. crude.

October 8.—Standard Oil Co. of Louisiana reduced El Dorado, Ark crudes 10 cents.

October 14.—Prairie Oil & Gas Co. announced that it would pay for all crude run to its account since October 1 and pay for oil stored to the account of producers since July 17, 1924, at present posted prices. No storage charge provided offer is accepted by October 31, 1924.

October 27.—Standard Oil Co. of Louisiana advanced Cotton Valley crude 15 cents.

Arkansas and North Louisiana

Caddo, 38° and above	$1.35
35° to 37.9°	1.25
32° to 34.9°	1.15
Below 32°	1.00
Homer, 35° and above	1.10
33° to 34.9°	1.00
31° to 32.9°	.90
Below 31°	.75
Haynesville, 33° and above	1.00
Below 33°	.90
El Dorado, 33° and above	1.00
Below 33°	.90
Bull Bayou, 38° and above	1.15
35° to 37.9°	1.00
32° to 34.9°	.85
Cotton Valley	.95
De Soto	1.20
Crichton	1.00
Bellevue	1.10
Smackover, 25° and above	.95
Below 25°	.85
*Stephens, Ark.:	
26° and above	.90
Below 26°	.70

*Posted by Atlantic Oil Producing Co.

Wyoming and Montana

Rock Creek (Wyo.)	$ .95
Salt Creek	.85
Big Muddy	.75
Mule Creek	.60
Grass Creek (light)	1.90
Elk Basin	1.20
Lance Creek	1.15
Osage	1.15
Cat Creek (Mont.)	1.20
Sunburst (Mont.)	90
Lost Soldier	.78
Greybull and Torchlight	1.15
Hamilton Dome	.80

Lander based on contracts covering entire production of fields.

Oklahoma, Kansas, North and Central Texas

Prairie Oil & Gas Co. and other major purchasing companies, except as noted:

Below 30°	$ .75
30° to 32.9°	.90
33° to 35.9°	1.10
36° and above	1.25
Magnolia Petroleum Co.:	
*33° and above	1.25
Corsicana Light	1.25
Corsicana Heavy	.90
Mexia	1.25
Powell	1.25
Thrall	1.00

*Below 33° gravity, same as Prairie.

Humble Oil & Refining Co.

Ranger:	
Below 30°	$ .90
30° to 32.9°	1.10
33° to 35.9°	1.25
36° and above	1.35
Mexia	1.25
Powell	1.25
Currie	1.25
Richland	1.25

*Wichita-Archer Counties and Moran, same as Prairie.

Gulf Coast

Grade "A"	$1.25
Grade "B"	1.05
Luling	.90
Laredo (Magnolia Petroleum Co.)	.75
Rockdale-Minerva (Milam County)	1.25
Calliham (Live Oak-McMullen)	1.53
*High Island	.85

*Posted by Sun Co.

***Somerset**

26° and above	.95
Below 26°	.85

*Posted by Grayburg Oil Co.

California

14° to 14.9°	$1.00
20° to 20.9°	1.01
21° to 21.9°	1.02
22° to 22.9°	1.03
23° to 23.9°	1.05
24° to 24.9°	1.07
25° to 25.9°	1.10
26° to 26.9°	1.13
27° to 27.9°	1.16
28° to 28.9°	1.19
29° to 29.9°	1.22
30° to 30.9°	1.25
31° to 31.9°	1.28
32° to 32.9°	1.31
33° to 33.9°	1.34
34° to 34.9°	1.37
35° to 35.9°	1.40
36° to 36.9°	1.46
37° to 37.9°	1.52
38° to 38.9°	1.58
39° to 39.9°	1.64
40° to 40.9°	1.70
41° to 41.9°	1.76
42° and above	1.82

Eastern States

Penna Grade Oil in New York Transit Lines	$2.85
Bradford District Oil in National Transit Lines	2.85
Penna Grade Oil in National Transit Lines	2.75
Penna Grade Oil in Southwest Pa. Pipe Line Lines	2.75
Penna Grade Oil in Eureka Pipe Line Lines	2.75
Penna Grade Oil in Buckeye Pipe Line Lines	2.75
Cabell Grade Oil in Eureka Pipe Line Lines	1.45
Corning Grade Oil in Buckeye Pipe Line Lines	1.50
Somerset Medium Oil in Cumberland Pipe Line Lines	1.55
Somerset Light Oil in Cumberland Pipe Line Lines	1.70
Ragland Grade Oil in Cumberland Pipe Line Lines	.90
Lima	1.58
Wooster	1.40
Illinois	1.37
Indiana	1.38
Princeton	1.37
Plymouth	.75
Waterloo	.75
†Oil Springs, Canada	2.30
†Petrolia, Canada	2.23
*Western Kentucky, 36° and above	1.20
*Western Kentucky, 33° to 35.9°	1.10
*Western Kentucky, 32.9° and below	1.00
Cumberland and Monroe Counties, (Kentucky) (Paragon Dev. Co.)	1.70

†Plus Government bounty of 26½c.

*Prices for Warren, Allen, Hancock, and Ohio Counties by Indian Refining Co. Prices for Warren and Simpson Counties by Paragon Development Co. are 10 cents higher.

Mexican Crude

*Tuxpam (f.o.b. Mexican ports)	$1.15
†Panuco (f.o.b. Mexican ports)	.95
Tuxpam (New York)	1.72
Panuco (New York)	1.38

*Plus 32.33c. †Plus 17.64c tax. Prices based on contracts.

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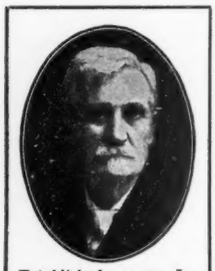

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MEMBER AUDIT BUREAU OF CIRCULATION

SHOULD THE TAIL WAG THE DOG?

The oil industry's great trouble in the past two years has been that the price for its chief product has been out of its control and in the hands of those who were concerned only indirectly in the welfare of the oil industry itself.

As a matter of record they have proclaimed the cost of the product should have nothing to do with the price for which it is sold.

When the industry, through overproduction, flooded the market, "distress" gasoline was welcomed by these people as an opportunity to make money for themselves regardless of its effects on the producer and the refiner.

They refused to see that if the selling price did not cover the cost of production and manufacture the bankrupting of the oil industry would ultimately deprive them of products to sell, or that their own prospect for permanent and prosperous business depended upon the prosperity of those who supplied them with goods.

How far they have been and remain from any fundamental understanding of the principles of merchandising is shown anew by the proposal for a marginal contract which will continue and intensify the conditions that have brought confusion on the industry.

This contract would pass and confirm the determination of prices for gasoline to those who distribute it, leaving to the producer of oil and the refiner the sole function of furnishing the raw material and the finished article to be disposed of for what the buyer figures is most profitable to himself.

If he could make more money by forcing down prices even below the cost of production, which he holds should have nothing to do with prices, the oil industry would be left holding the bag, as it has been for two years.

What makes this the more unreasonable is the fact that the proposed contract would represent but a proportion of the sellers of only one-fourth of the total of gasoline sold. Three-fourths are sold by integrated companies who are not parties to this proposition.

Nevertheless the price of all the gasoline sold is sought to be fixed by the wishes of a percentage selling a fraction of the product.

How that power could be abused was shown by the experience with "distress" gasoline in the past two years. It would be suicidal for any industry thus to turn over to jobbers alone the determination of the price at which its goods should be marketed.

This is not a matter of opinion. It has been demonstrated to the industry's cost.

Gasoline consumers, too, have a vital interest in what is proposed.

The independent refiners have their place in the industry but the great burdens, requiring huge investment, must, of necessity, be borne by the larger companies.

Neither the independent refiner, as a rule, nor the independent jobber is qualified to carry large stocks. These stocks must be carried by the industry for its own protection and the protection of its customers, the public, otherwise, with a hand-to-mouth production of gasoline we should have famine prices in the summer season of chief demand and whatever we could get for it in winter.

It is costing the oil industry $150,000,000 annually to carry the 500,000,000 barrels of oil in storage.

When this oil is placed in storage, often at good prices, and the cost of storage is added, it cannot be sold in competition with cheaper oil produced currently in times of depression.

The independent refiner, buying currently, may be able to sell temporarily below the price of the integrated companies carrying this storage, forcing them to take losses, but that cannot be imagined as a normal condition in the industry.

What would be the effect if the integrated companies refused to store oil they might be forced to sell at a loss and conducted their business on the current market, whatever it might be?

What, for instance, might the price of gasoline be in mid-August under such circumstance with but a comparatively overnight supply to draw upon?

It can be imagined that no independent refiner or marketer would welcome such a condition permanently. Certainly the public, the chief sufferer, would soon discover the difference.

Just the same, if this proposal to place the determination of the price of gasoline in control of those who avowedly have no interest in the industry could be put into effect, the resulting demoralization might be expected in time to lead to exactly such a disastrous condition.

The good sense of the independent refiners and the jobbers who feel that their own welfare is bound up with that of the oil industry will see through its destructive possibilities.

They realize that the crying need of the industry has been and is stabilization within itself to resist dictation from outside. They appreciate the function of storage capacity as a stabilizer. They know what it costs and that those costs are necessarily part of the price for which gasoline must be sold if the industry is to continue.

They know, moreover, that this proposal has been framed by and for special interests without regard to the interests of the industry. It is a heads-I-win-tails-you-lose proposition.

But there is still another point that may develop. The United States Supreme Court has rendered very positive decisions touching price-fixing agreements and contracts.

Surely, if ever there was a price-fixing agreement, this is one: "The distributor agrees that he will not be the aggressor or take the initiative in reductions of price, except as provided for under the terms of the contract."

It will be interesting to observe what the Supreme Court of the United States has to say about this, because it is reasonably certain to land before that tribunal sooner or later, either through litigation over the contract or by the intervention of the Department of Justice.

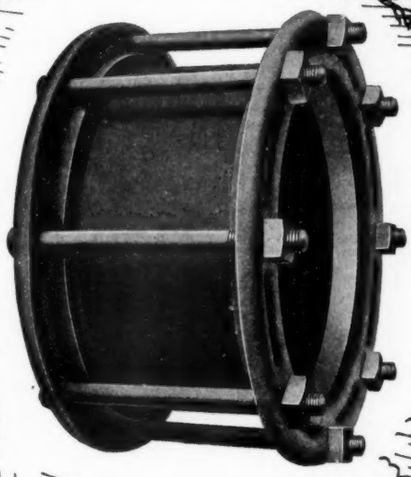
Speaking of litigation, it is agreed that the model for a marginal contract should be stressed for its simplicity. This, on the contrary, invites so many equivocations and controversies that it would be certain to involve a maze of arbitrations and lawsuits. It would be a regular wilderness of ambushes for the unwary.

But its chief danger and drawback is that it proposes to perpetuate the very conditions that have been responsible for the demoralization of the industry in the past two years, the very thing we have been trying to get away from.

Shall the oil industry continue to have the prices of its products fixed by outside interests?

Should the tail wag the dog?

Dresser Couplings Dominate



The Dresser Company has been in business for forty years, and, during that entire period, has enjoyed the good will and patronage of the men engaged in the Natural Gas and Oil Industry.

Since their inception, Dresser Couplings have always dominated, and from the start have been regarded as standard equipment in Pipe Line construction.

Of the thousands of miles of high pressure natural gas trunk lines in use, it is conservative to say that more than 75% of those of plain end pipe are connected with Dresser Couplings.

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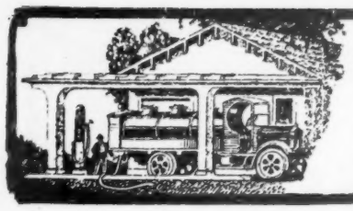


TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns, Nov. 4

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

Main Service Station Price

	Gasoline Tank wagon	Gasoline Incldg tax of	Gasoline Service station	Kero. Tank wagon
Chicago District—				
†100 gals. or more	13.0	...	16.0	11.0

Tank wagon prices on April 10, 1922; g. up 1½c; May 8, g. up 1c; June 27, both up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 6, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 29, g. up 2c; Jan. 12, 1924, g. up 2c, k. up 1c; Feb. 5, g. up 2c, k. 1c; July 18 g. down 1c; July 30, g. and k. down 1c; Sept. 12, g. down 2c.

Decatur, Ill.	13.2	...	15.2	11.5
East St. Louis	12.1	...	14.35	10.6
Joliet	13.4	...	15.4	11.7
Peoria	13.0	...	15.0	11.5
Quincy	13.2	...	15.2	11.3
Davenport, Ia.	13.5	...	15.5	11.9
Des Moines	13.5	...	15.5	11.9
Keokuk	13.5	...	15.5	11.9
Sioux City	13.0	...	15.0	11.5
Duluth, Minn.	14.5	...	16.5	12.6
Minneapolis	14.2	...	16.2	12.6
La Crosse, Wis.	14.2	...	16.2	12.4
Milwaukee	13.1	...	15.1	11.3
Madison	13.3	...	15.3	11.5
Detroit, Mich.	13.8	...	15.8	12.2
Grand Rapids	13.7	...	15.7	12.1
Saginaw	13.9	...	15.9	12.3
Evansville, Ind.	15.0	2.0	17.0	11.5
Fort Wayne	15.4	2.0	17.4	11.9
Indianapolis	15.2	2.0	17.2	11.7
South Bend	15.4	2.0	17.4	11.9
Fargo, N. D.	15.9	1.0	17.9	14.6
Huron, S. D.	17.0	2.0	19.0	13.1
Sioux Falls	15.0	2.0	17.0	12.6
*Kansas City, Mo.	13.9	1.0	15.9	10.3
Springfield	13.8	...	15.8	11.2
*St. Louis	12.6	0.5	14.9	11.0
*St. Joseph	13.5	0.5	15.0	10.9
Wichita, Kans.	12.8	...	14.8	9.8
Bartlesville, Okla.	14.4	...	16.4	9.9

*City tax.
†Tank wagon price on less than 100 gallons, 14c.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline Tank wagon	Gasoline Incldg tax of	Gasoline Service station	Kero. Tank wagon
Newark, N. J.	13.5	...	....	13.0
Atlantic City	13.5	...	....	13.0
Annapolis, Md.	16.0	2.0	17.0	12.0
Baltimore	16.0	2.0	17.0	11.0
Cumberland	16.0	2.0	17.0	12.5
Washington, D. C.	16.0	2.0	18.0	12.5
Norfolk, Va.	17.0	3.0	19.0	13.5
Petersburg	17.0	3.0	19.0	13.5
Danville	17.0	3.0	19.0	13.0
Richmond	17.0	3.0	19.0	13.5
Roanoke	17.0	3.0	19.0	13.5
Keyser, W. Va.	15.0	2.0	....	12.5
Charleston	16.0	2.0	....	13.5
Parkersburg	16.0	2.0	....	13.5
Wheeling	16.0	2.0	....	13.5
Charlotte, N. C.	15.0	3.0	....	13.5
Hickory	15.0	3.0	....	13.5
Mt. Airy	15.0	3.0	....	13.5
Salisbury	15.0	3.0	....	13.5
Charleston, S. C.	15.5	3.0	....	14.0
Columbia	15.5	3.0	....	14.0

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline Tank wagon	Gasoline Incldg tax of	Gasoline Service station	Kero. Tank wagon
Atlanta, Ga.	17.0	3.0	20.0	13.0
Augusta	17.0	3.0	20.0	13.5
Macon	17.0	3.0	20.0	14.5
Savannah	14.0	3.0	17.0	13.0
Birmingham, Ala.	15.0	2.0	18.0	14.5
Mobile	14.0	2.0	17.0	12.0
*Montgomery	16.0	3.0	19.0	15.5
Clarksdale, Miss	15.0	3.0	18.0	12.0
Jackson	15.0	3.0	18.0	10.0
Natchez	14.5	3.0	17.5	11.5
Vicksburg	14.5	3.0	17.5	11.5
Jacksonville, Fla	15.0	3.0	18.0	13.0
Miami	17.0	3.0	20.0	14.5
Pensacola	15.0	3.0	18.0	13.5
Tampa	15.0	3.0	18.0	13.0
Lexington, Ky.	16.0	3.0	19.0	14.0
Covington	15.0	3.0	18.0	14.0
Louisville	15.0	3.0	17.0	12.0

*In addition to State tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ⅛ cent on kerosene.

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline Tank wagon	Gasoline Incldg tax of	Gasoline Service station	Kero. Tank wagon
San Francisco	15.0	2.0	18.0	15.5
Los Angeles	14.0	2.0	17.0	15.5
Fresno	15.5	2.0	18.5	17.5
Reno, Nev.	18.5	2.0	21.5	19.0
Portland, Ore.	16.0	3.0	19.0	16.5
Seattle, Wash.	15.0	3.0	18.0	16.5
Tacoma	15.0	3.0	18.0	16.5
Spokane	19.0	3.0	22.0	20.5
Phoenix, Ariz.	21.0	3.0	24.0	21.5

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline Tank wagon	Gasoline Incldg tax of	Gasoline Service station	Kero. Tank wagon
Basin, Wyo.	17.0	1.0	....	14.0
Casper	15.0	1.0	17.0	12.0
Cheyenne	16.5	1.0	18.5	13.5
Cody	18.0	1.0	....	15.0
Lander	17.0	1.0	....	14.0
Albuquerque, N. M.	19.0	1.0	21.0	15.0
Salt Lake, Utah	20.0	2.0	22.0	17.0
Ogden	20.0	2.5	22.0	17.0
Denver, Colo.	16.0	2.0	18.0	13.5
Glenwood Spgs.	20.0	2.0	....	17.5
Pueblo	16.0	2.0	18.0	13.5
Billings, Mont.	18.5	2.0	20.5	14.5
Butte	20.0	2.0	22.0	15.0
Great Falls	20.0	2.0	22.0	16.0
Helena	20.0	2.0	22.0	16.0
Miles City	19.5	2.0	21.5	15.5
Missoula	21.0	2.0	23.0	16.0
Boise, Idaho	21.5	2.0	23.5	19.0
Idaho Falls	21.0	2.0	23.0	18.5

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline Tank wagon	Gasoline Incldg tax of	Gasoline Service station	Kero. Tank wagon
*Pittsburgh, Pa.	14.0	...	19.0	14.0
*Philadelphia	14.0	...	19.0	14.0
*Scranton	14.0	...	19.0	14.0
*Allentown	14.0	...	19.0	14.0
*Altoona	14.0	...	19.0	14.0
Dover, Del.	16.0	2.0	19.0	14.0
Wilmington	16.0	2.0	19.0	14.0
Hartford, Conn.	14.0	1.0	17.0	13.0
New Haven, Conn.	14.0	1.0	17.0	13.0

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline Tank wagon	Gasoline Incldg tax of	Gasoline Service station	Kero. Tank wagon
Albany, N. Y.	15.0	...	....	13.0
*New York	15.0	...	....	13.0
Buffalo	13.0	...	....	12.0
Rochester	14.0	...	....	13.0
Syracuse	15.0	...	....	12.0
Boston, Mass.	14.0	...	....	13.0
Providence, R. I.	14.0	...	....	13.0
Augusta, Me.	15.0	1.0	....	13.0
Manchester, N. H.	16.0	2.0	....	13.0
Burlington, Vt.	15.0	1.0	....	13.0

*Price in steel barrels.
Note: Standard Oil Co. of New York does not generally quote service station prices in its territory. In most cases the service station price is 2 or 3 cents higher than tank wagon price.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline Tank wagon	Gasoline Incldg tax of	Gasoline Service station	Kero. Tank wagon
Omaha	11.0	...	13.0	11.5
Crawford	14.0	...	....	12.25
McCook	14.75	...	16.75	13.0
Norfolk	13.75	...	15.75	12.0
North Platte	14.75	...	16.75	12.75
Scotts Bluff	14.25	...	16.25	12.25

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline Tank wagon	Gasoline Incldg tax of	Gasoline Service station	Kero. Tank wagon
Dallas, Tex.	10.0	1.0	13.0	10.0
Fort Worth	10.0	1.0	12.0	10.0
Houston	11.0	1.0	14.0	10.0
San Antonio	10.0	1.0	12.0	10.0
El Paso	12.0	1.0	14.0	11.0
Muskogee, Okla.	12.0	2.5	17.0	11.0
Oklahoma City	12.0	2.5	15.0	11.0
Tulsa	12.0	2.5	15.0	11.0
Ft. Smith, Ark.	15.0	4.0	18.0	12.0
Little Rock	17.0	4.0	19.0	11.0
*Texarkana	16.0	4.0	19.0	10.0

*Does not include 1c additional tax.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline Tank wagon	Gasoline Incldg tax of	Gasoline Service station	Kero. Tank wagon
New Orleans, La.	13.5	2.0	15.5	9.0
Alexandria	14.5	2.0	16.5	13.0
Baton Rouge	13.0	2.0	15.0	11.5
Lake Charles	14.5	2.0	16.5	13.0
Shreveport	14.5	2.0	16.5	13.0
Memphis, Tenn.	14.0	2.0	16.0	14.0
Chattanooga	15.0	2.0	17.0	14.5
Knoxville	16.5	2.0	18.5	15.0
Nashville	15.5	2.0	17.5	13.5
Bristol	17.0	2.0	19.0	13.5
Little Rock, Ark.	17.0	4.0	19.0	13.0

OHIO

Standard Oil Co. (Ohio)

	Gasoline Tank wagon	Gasoline Incldg tax of	Gasoline Service station	Kero. Tank wagon
All Ohio points	15.0	...	17.0	14.0

TANK WAGON CHANGES

October 28—Standard Oil Co. of California reduced gasoline tank wagon and service station prices 2 cents in California, Nevada and Arizona and 3 cents in Oregon and Washington.

October 30—Standard Oil Co. of New Jersey reduced gasoline tank wagon and service station prices .5-cent in Virginia.

November 1—Standard Oil Co. of New York advanced gasoline tank wagon prices 1 cent in entire territory.

GASOLINE ADVANCING OIL CITY REPORTS

OIL CITY, Pa., Nov. 1.—The feature of the refined oil markets in northwestern Pennsylvania at the present time is gasoline. Motor fuel is going good and the price and demand have both advanced. The light grades especially are up in price and there has been a stiffening of the heavy as well. The demand is the biggest for several weeks. Many of the refineries in this district are entirely out of light gasoline.

Kerosene is weakening in both price and demand. The harvest period is over and fall plowing is also nearing an end and that has caused a falling off in demand.

Wax was another feature during the week. At the start of the week it was a great deal weaker than it had been and in some cases sold for the cheapest price in two months, then it rebounded and again sold at prices which had previously prevailed.

Fuel oil is strong, holding its own in fine shape. Neutrals are weak and stocks are in about the same condition as they have been.

NORTH TEXAS MARKET SHOWS UPWARD TREND

FORT WORTH, Tex., Nov. 3.—With but little stock in storage and an increasing demand, New Navy gasoline increased in price ¼ cent, with most orders place dat 7¼ to 7½ cents, where spot shipments were required a premium of ¼ cent a gallon was demanded and paid. The higher grades of gasoline developed an upward trend in demand and price, 64-66, 375 end point was generally quoted at 9¼ cents flat.

Fuel oil strong, although no change in price developed. Several offers of 95 cents, deliveries to be made at intervals during the coming winter, went begging, as not one refinery was willing to accept a long time contract at that price. Prices for the week fluctuated between 95 cents and $1 a barrel.

Inquiries for kerosene were more numerous than last week, but there was not sufficient demand to increase the price, water white was quoted at 4½ and prime white 4¼ cents. No change was noted in gas oils, with prices steady at 2¾ to 3 cents.

GASOLINE RFDUCTION CALIFORNIA SURPRISE

LOS ANGELES, Cal., Nov. 1.—A bomb shell was dropped among the California oil marketers. The price cut announced October 28 by the Standard Oil Co. (California) was immediately met by all other marketing concerns. The cut amounted to 2 cents on gasoline distributed in California, Arizona and Nevada. A reduction of 3 cents was made in Washington and Oregon. The same 2 cents and 3 cents cuts were made on engine distillate.

Despite the slash in gasoline and engine distillate, the rest of the price structure in California remains unaffected excepting commodities contracted on a price scale sliding with the price of gasoline. A curious condition has developed in natural gasoline. Most natural gasoline purchase and sale contracts in California have been written so the price varies with the retail market price of motor gasoline. Practically all natural gasoline sold under contract has suffered a 2-cent drop. The spot market however, shows practically no change. This firmness is undoubtedly due to practically all supplies available at reasonable prices having been picked up by the Shell Company of California, the General Petroleum Corporation and Standard Oil Co. (California). The small available supplies are being held at whatever price the smaller refineries in urgent need of natural gasoline for blending can afford to pay. While probably 80 per cent to 90 per cent of the natural gasoline of California is moving at prices somewhere between 6 cents and 8½ cents per gallon, the spot market is about 2½ cents higher.

Kerosene, the fuel distillates and fuel oil are not affected by the gasoline price cut. The crude oil schedule also remains unchanged. Lubricating oils are possibly a shade stronger but no price changes are apparent.

Because of the quite unexpected drop in gasoline and engine distillate, the market is now ready to expect anything. Whether another cut will come no one can say. The effect of this cut on the small refiners and "bootleggers" is being watched by the old marketing companies. It is highly probable refiners who have been doing a legitimate business will weather the storm in very good shape, whereas those who have been selling their goods on a basis of price only, irrespective of quality, responsibility or integrity, will probably be doomed within a few months.

CONTINUED STRENGTH IN OKLAHOMA MARKET

(Continued on Page 30)

orders of any size in neutrals. Very little wax is available for immediate delivery but prices for future shipments are lower. One buyer bought at 4¾ cents for December delivery and another was able to secure shipment before the end of this month at 5 cents. A majority of the few refiners who make wax in Oklahoma have no material to offer for delivery until after the first of the year.

NAMED RECEIVER FOR SUNSHINE CONSOLIDATED

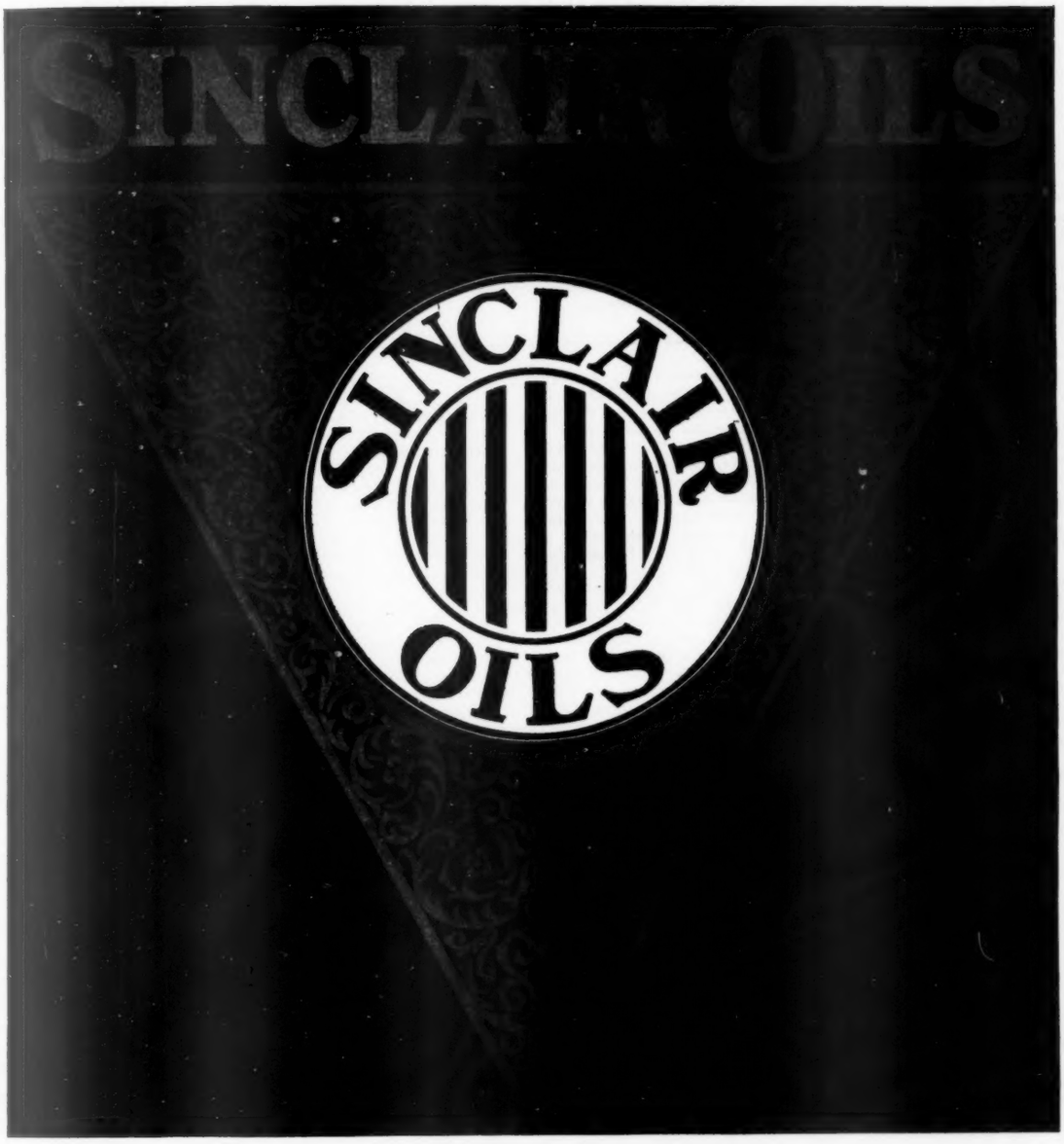
WICHITA FALLS, Tex., Nov. 1.—L. F. Ramming, local oil operator, has been appointed receiver of the Sunshine Consolidated Oil Co. of this city, a concern which up to a few weeks ago was known as the Sunshine State Oil & Refining Co. The receivership was granted upon the request of four stockholders including Mr. Ramming. The Sunshine Co. has operated a refinery here for about six years. The company also has some production and leases in this section.

CHARTERED IN TEXAS

AUSTIN, Tex., Nov. 1.—Chartered: Cranfill & Reynolds, Dallas, Texas, capital stock, $300,000, oil business; incorporators, Tom E. Cranfill, J. H. Reynolds, A. H. Richardson.

TO RESTRICT VENEZUELA?

A London report to the Wall Street Journal, says: Shell Transport & Trading Co., Ltd., with majority control of Venezuelan Oil Concessions, Ltd., is buying the outstanding shares with a view to restricting Zenezuelan oil production.



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Growing Importance of South America

Question of Whether Petroleum Consumption There Will Match Production or Output Overflow Into the Markets of the World

By M. M. Taylor
Minerals Division, U. S. Department of Commerce

Petroleum, in 1913 a relatively unimportant item in South America's foreign trade, has since the war become one of the conspicuous factors in its commerce with outside countries, particularly the United States and Mexico. The development of both production and consumption during recent years has caused marked changes in importation figures in all South American countries, and in 1923 the value of United States exports of petroleum and petroleum products to South America, exclusive of the solid products, was more than 11 per cent of the value of its total exportation there.

There is still only a small commerce in mineral oils between the several South American countries, in spite of a large and increasing production in some of them; owing to transportation difficulties away from the coast sections, producing countries send most of their exports to distant ports and importation is very largely from North America. The imports from the United States, however, are mostly of gasoline, kerosene, and other refined products. Mexico supplies nearly all of the crude oil imported into South America, and much of its fuel oil.

Imports Most Important

There are only two South American countries—Peru and Venezuela—in which exportation of petroleum exceeds importation, and, for the continent as a whole, the importance of this product is consequently most apparent in the case of imports. The following export statistics of the United States furnish the nearest approximation of the present importance of petroleum in South America:

United States Petroleum and Total Exports to South America Compared

Countries—	Exports from U. S.—Total	Exports from U. S.—Petroleum*	Pct. of Total
Argentina	$112,781,892	$13,774,601	12
Bolivia	3,038,793	35,474	1
Brazil	45,583,620	9,313,552	20
Chile	31,057,952	3,429,405	10
Colombia	22,297,726	196,092	.8
Ecuador	4,335,606	42,162	.9
Guianas	2,864,187	143,549	4
Paraguay	585,999	7,664	1
Peru	19,775,789	573,499	3
Uruguay	15,977,188	2,638,838	17
Venezuela	11,918,570	327,143	2
Total	$269,317,322	$30,481,979	11

*Figures cover liquid petroleum products only.

Countries Producing and Exporting

Although much smaller than the imports, the exports of mineral oils from South America are increasingly important in world commerce, and likely to develop more rapidly when production has the advantage of better transportation facilities. The amount of South American oil brought into the United States is still relatively small, but is increasing rapidly, and the probability of new fields and more intensive operations indicates a considerable additional expansion. At present only Peru and Venezuela have a production sufficiently large to export heavily in addition to supplying domestic needs, but Argentina ships some petroleum, although importing a much larger amount. Ecuador has a production sufficient to reduce its importation perceptibly, and Colombia now supplies almost all its domestic demand. Bolivia has shown signs of petroleum deposits, and development has begun in that country, but this does not yet figure in commercial statistics. Petroleum indications in the other South American countries are still doubtful, although it seems likely that Brazil and Chile can develop an oil shale production.

Peru Leads in Production and Exports

Peru is first in both production and exportation of petroleum in South America, and already takes eight places among the petroleum-producing countries of the world, having outranked Poland in 1922 and 1923. The 1923 Peruvian production has been estimated at more than 6,000,000 bbls.—a considerable increase over the figures for 1921 and 1922—and reports following exploratory surveys indicate a probability of the existence of its richest petroleum fields in a region as yet inaccessible for exploitation. The country consequently promises to be a larger factor in South America's future export trade than it is at present.

Consumption is small in Peru, owing to the low purchasing power of the people and the small industrial development of the country. Official statistics for 1921 (the latest available) show a per capita consumption of about 1 gallone for a population of approximately 4,500,000. Figures for previous years indicate that consumption is increasing, but the increase in production has been more rapid, so that exportation remains the principal petroleum trade influence in the country. Small imports of the refined products, largely from the United States, are recorded, the receipts of kerosene having steadily decreased through the last several years. Lubricants and paraffin form the largest items of importation.

In spite of the possession of two well-equipped refineries, Peru still keeps crude at the head of its export list. In 1922 it shipped a total of 3,904,107 bbls., of which 1,942,021 were crude petroleum. The next largest items were 918,921 bbls. of crude naphtha and 797,239 bbls. of fuel oil. The crude went principally to the United States, Canada, Cuba, and Argentina. Argentina and the United States also took about 80 per cent of the crude naphtha, the remainder going to European countries. Fuel oil went largely to bunkers and in addition was exported to Chile and other South American countries and to Cuba and the United States. The largest quantities of refined products weer taken by Chile, Argentina, Eucador and Panama.

Petroleum as a Factor in South American Trade

While there is much variation in the development of the several countries of South America, an increase in the use of petroleum products is general throughout the continent, and the increasing production indicates a possible reversal of their present commercial significance. It is expected that new sources will be discovered, and, in addition, that refining operations will be expanded and transportation improved, the present interest in these activities indicating probable extensive changes in the near future.

Until 1923 the next largest producer was reported for Argentina, which has also the largest consumption of any of the South American countries, having in 1923 used approximately 418,000,000 gallons of petroleum products, while Brazil, with a population more than three times as great, required only about 109,000,000. Argentina has four petroleum-producing areas, only two at present of commercial importance, and the bulk of the production is from the areas under Government exploitation.

The Argentine Government uses much of its output for the Navy, the State railways, and other public purposes, but it also sells and exports. With the increased production, there has also come a steadily increasing inclination to use petroleum within the country. Railroads and industries use larger amounts of fuel oil, and the popular consumption of gasoline and kerosene is growing, with the result that as production increases importation does not cease; but, on the other hand, in some cases it increases and in no case has it had a decisive decrease. The importation of petroleum products from the United States in 1923 increased over 1922, and the import of crude increased from 82,787 bbls. to 917,659. Argentina is, in fact, the only South American country that imports a large amount of crude from the United States. Its production for 1923 has been placed at 137,000,000 gallons, which is considerably short of the estimated consumption of 418,000,000 gallons. Improvement in transportation will undoubtedly give an impulse to production, as the fields hold a considerable promise for future development, but the prospects for Argentina's supplying all of its own petroleum market are distant, and its exportation will be a smaller item than its importation for a long period.

Venezuelan Petroleum Largely Exported

Venezuela's production in 1923 was placed higher than Argentina's, although in previous years the order was reversed. Venezuela's total production in 1923 was 160,000,000 gallons and Argentina's 137,000,000. Venezuela has a population only about one-fourth that of Argentina, and, in addition, has not developed the same popular usage of petroleum. In 1923, consequently, only about 18,000,000 gallons were consumed, leaving, as in previous years, most of its production for exportation.

The country's position on the north coast of the continent makes transportation to the West Indies a convenient operation, and about 70 per cent of the Venezuelan petroleum production is immediately exported—principally to Curacao—and from that point reexported to the United States or other ports, partially still in the crude and partially in the products of the Curacao refinery. Meantime the country imports lubricating oils and small quantities of gasoline and kerosene, mostly from the United States, although Curacao, Trinidad and European countries supply some shipments. All the Venezuelan consumption of crude and fuel oil is supplied from the local production.

Ecuadorian Production Increasing

During 1923 production in Ecuador increased over that for 1922 and 1921, but as no official statistics are kept the exact amount for any year can only be estimated. What is known is that it is not yet equal to the consumption, although the latter is small. The country possesses three refineries, whose output is gradually increasing, and as there are more undeveloped petroleum areas the time is prob-

(Continued on Page 108)

ENGLAND FEARS OIL COMPETITION WILL RUIN ITS COAL INDUSTRY

References in The Oil and Gas Journal to the address delivered recently in England by Mr. Frank Hodges, Civil Lord of the Admiralty, regarding the increasing competition of fuel oil with British coal, has led to requests for publication of his remarks. In this connection the London Oil News says: "It is a sign of the times when we see a Cabinet Minister, who is also a practical miner, warning the mining profession that the world is inevitably passing away from the use of raw coal as a fuel, that the world market for raw coal is declining and that for the time being another fuel, oil, has come into use, being more economical, more efficient, than coal itself. Mr. Hodges has peculiar qualifications to speak upon the matter, firstly by reason of his intimate associations with the coal industry and secondly by reason of his responsibilities in connection with the Navy. Today's coal trouble is due to the abandonment, by those who can resonably do so, of coal in favor of oil. Foremost among these are the large steamship owning companies, but on land, even in such a country as England, where oil is comparatively dear and coal is cheap, the change over has made enormous progress. The imports of fuel oil each month are sufficient evidence of this."

Mr. Hodges' speech, delivered before the Past and Present Mining Students' Association of the Wigan, Lancashire, Mining and Technical College, was as follows:

"The new problem in the coal-mining industry, has grown up almost unnoticed by those who are engaged in the industry. The new problem arises from the fact that the world is inevitably passing away from the use of raw coal as a fuel; that the world market for raw coal declines, and for the time being, and perhaps for the next 40 years, another fuel has come into use which would definitely oust coal off the market altogether if such substitute were in the world in sufficiently large and sufficiently accessible quantities. I refer to oil.

It must not be thought that coal is alone the source of power. On the contrary it has very formidable rivals in oil and water, though our water and oil supplies within our own borders are negligible as compared with those of the American Continent. We do, however, import large quantities of oil fuel into this country, and it is making itself felt already upon our coal trade. Last year, we imported 5,000,000 tons of oil of all kinds into this country, at an approximate cost of £45,000,000, more than half of which came from the United States and Mexico. In this connection let me add that last year 87.6 per cent of the world's total output of oil, or over 126,000,000 tons, were produced in the United States of America and Mexico.

Struggle Between Coal and Oil

It is the change over from coal to oil as the fuel for our fleet and our mercantile marine where we see the best example of struggle between coal and oil as fuel. "Lloyd's Register" shows to what extent oil has been adopted for tonnage built since the war. In 1918-19 oil-using tonnage was about 33 per cent of the whole, in 1919-20 nearly 50 per cent, in 1920-21 60 per cent, in 1921-22 64 per cent, in 1922-23 59 per cent. The

(Continued on Page 74)

IDEAL SWIVELS

TYPE "GS"

UNEQUALLED SERVICE AT MINIMUM COST

THE NATIONAL SUPPLY COMPANIES

Form Petroleum Research Committee

Leading Scientists to Prepare Statement as to Leading Problems of Industry. Action Most Important

By L. M. Fanning

Petroleum Research Committee Significant Step

The National Research Council, which in April of this year opened its new building in Washington D. C., is organizing a committee on petroleum research, with Dr. Benjamin T. Brooks, consulting chemist of New York, as chairman. This action is deemed highly significant as showing the importance attached by the council to petroleum as a separate field for research, and among those familiar with the activities of the various committees of the council it is anticipated that the organization and functioning of a petroleum committee will be one of the greatest single factors in stimulating scientific interest in the solution of important oil research problems. Doctor Brooks is now engaged in working out the personnel of his committee which he is endeavoring to make a strong body comprising representatives of both the petroleum industry and of the universities and possibly with an international flavor. With no limitation on the number of men to make up the committee, the restrictive factor is largely ability of many leading petroleum technologists to serve. The indications are that the committee will be fairly large in membership and that some of the most distinguished men in the field of petroleum chemistry will be active on it.

* * * * *

Emphasis Placed on Particular Research Problems

Doctor Brooks, when seen on the matter, stated that the functioning of the committee would probably be virtually the same as that of other committees of the council, which is largely an agency for the purpose of compiling information and emphasizing particular research problems that should be investigated. The council or its committees does not presume to dictate but merely to direct attention to cogent problems and to stimulate cooperative and independent investigation. It acts as an aid to making available facts as to work already accomplished and, through its bulletin, acts to some extent as a clearing house for information on specific scientific problems. Bibliographies published by the council, notably a recent one on colloid chemistry, have proven of immense service. Illustrative of the work of the council, Doctor Brooks said, is the publishing by one of its committees of a list of problems in a particular field from which resulted over 100 research publications covering these specific problems. The council itself does not publish all such reports but it aims to stimulate actual research work and publication of actual results in the various scientific organs; then after the work has progressed to a certain definite stage the council's practice is to publish in its bulletin a comprehensive summary of everything that has been done.

* * * * *

Committee Will Present Research Subjects

The first action of the committee on petroleum research will be to prepare a reasonably concise statement as to what some of the petroleum research problems are. While everything so suggested cannot be expected to be original and new, the mere fact of repetition will serve the definite purpose of emphasis desired. Moreover, Doctor Brooks pointed out that problems which are more or less familar within the industry are not in all cases understood as being of essential character by outside research experts such as those connected with the universities who in many instances have the facilities the desire and the training to undertake valuable work. It would be the object of the committee in formulating its list of subjects to obtain the benefit of the research experience and advice of a large number of representative petroleum chemists whether it is possible for them to serve on the committee or not. The widest assistance in making up the list is desired, and then after the committee is satisfied that it is covering the most important topics, the procedure would be to broadcast the subjects in the hope of stimulating interest among scientists generally in their practical solution. The history of scientific research shows that certain fields of investigation enjoy waves of popularity and absorb the interest of the chemist through the point where the urgent features of the particular problem have been solved; that with enough attention directed to it, a certain field of research becomes little less than a fad among the scientists. For instance, the vogue of investigation, and the resultant solution of many important problems, on hydrogenation, on phenol resins and on cracking.

* * * * *

Stimulation and Effective Use of Petroleum Literature

Doctor Brooks believes the committee should be able to present such a list of worthwhile problems that they would comprise, in effect, a research program, which will occupy the petroleum chemist for years to come. He thinks much can be done in getting together helpful information for all those interested in petroleum chemistry and research wherever located, and in stimulating petroleum literature and making what is published more widely available and effective. Probably the best way to illustrate the manner of functioning and the objects of the Committee on Petroleum Research, is to review the work of other committees of the council. In 1921 the Committee on Catalysis of the National Research Council of which Professor Wilder B. Bancroft of Harvard University, is chairman, published a list of subjects for research. Two years later it required a report, printed by the council, 140 pages long to summarize all the researches done on the same problems during the intervening years, the original reports of these researches having appeared in various journals. Some of these researches were strictly scientific and others of the greatest industrial importance. A cursory reading of the council's report shows such industrial subjects as the manufacture of hydrogen gas and water gas; the production of carbon monoxide, a matter recently brought to industrial success by the Bradische Company of Germany; the study of the action of silica gel and absorbent charcoals; catalytic hydrogenation, as in the hardening of fats; manufacture of ethylene from alcohol; effect of the nature of the surface on gaseous combustion; material now used in military and Naval gas masks and in certain industrial plants where carbon monoxide is met with; synthesis of ammonia, and other matters of lesser importance. Many of the subjects dealt with by the council are of industrial character, as for example the paper of Professor E. W. Washburn on refactory materials as a field for research.

* * * * *

Objects of National Research Council

The National Research Council is an outgrowth of the National Academy of Sciences, incorporated in 1863 upon approval of an act of Congress by President Lincoln. It brought together 50 of the country's leading scientists and was organized "to investigate, experiment and report upon any subject of science or art." The academy functioned in important matters during the Civil War and on many later occasions. In April, 1916, it offered to organize the scientific research of the country and President Wilson accepted and later approved the formation of the National Research Council. This was organized along divisional lines, each division being composed of sections and special committees upon which many of the country's foremost scientists served. On May 11, 1918, the President issued an executive order which requested that the council be perpetuated with duties set forth as follows: In general, to stimulate research in the mathematical, physical and biological sciences, and in the application of these sciences to engineering agriculture medicine and other useful arts with the object of increasing knowledge, strengthening the national defense and of contributing in other ways to the public welfare. To survey the larger possibilities of science, to formulate comprehensive projects of research, and to develop effective means of utilizing the scientific and technical resources of the country for dealing with these projects. To promote cooperation in research at home and abroad, in order to secure concentration of effort, minimize duplication, and stimulate progress; but in all cooperative undertakings to give encouragement to individual initiative, as fundamentally important to the advancement of science. To serve as a means of bringing American and foreign investigators into active cooperation with the scientific and technical services of the War and Navy departments and with those of the civil branches of the Government. To direct the attention of scientific and technical investigators to the present importance of military and industrial problems in connection with the war, and to aid in the solution of these problems by organizing specific researches. To gather and collate scientific and technical information at home and abroad, in cooperation with Government and other agencies and to render such information available to duly accredited persons. Dr. H. E. Howe vice chairman of the Committee of Industrial Research of the Council points out that in carrying out the purposes as expressed in the executive order the council endeavors in nowise to duplicate the efforts of other scientific bodies and strives to utilize to the fullest extent existing facilities for the prosecution of research establishing laboratories only where no other course can be followed. It also endeavors to encourage research workers and to do what it can to increase the number of such workers in the country.

* * * * *

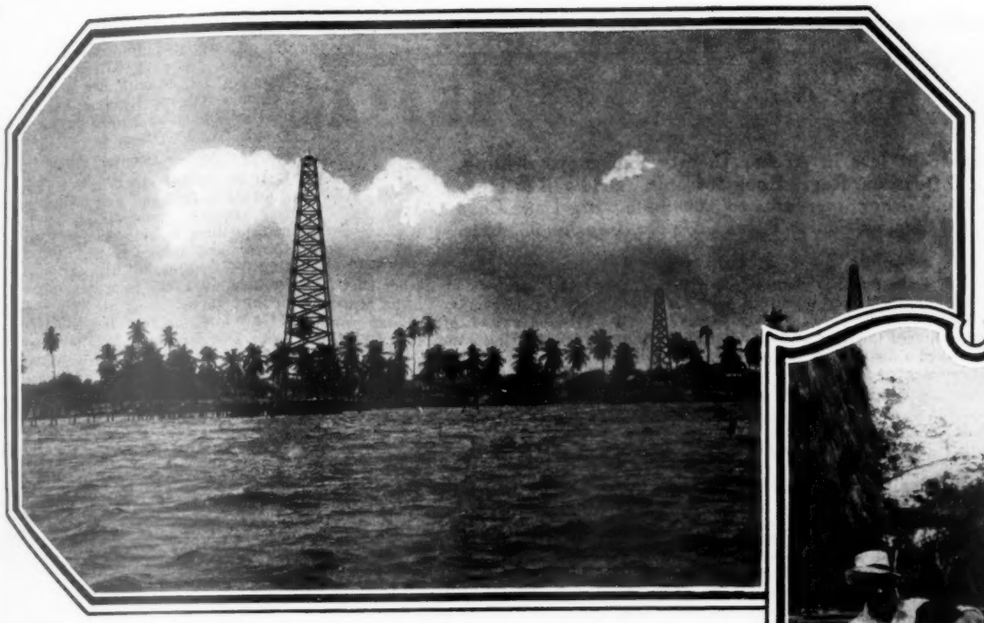
Tribute to George M. Saybolt

Speaking of research the Lamp in its current issue pays this tribute to the late George M. Saybolt:

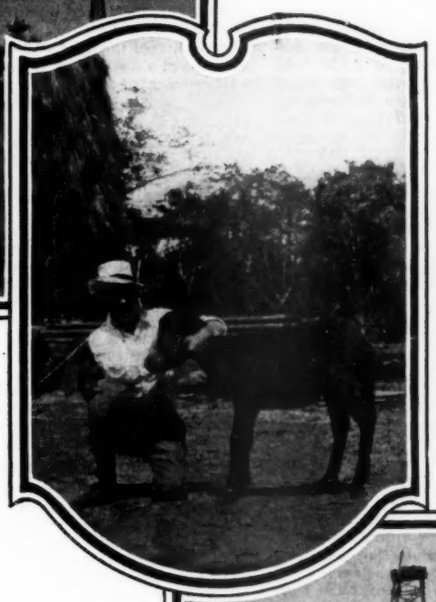
"One of the outstanding figures in the petroleum industry, and one of its very few remaining pioneers, was George M. Saybolt, whose name is known the world over in connection with numerous processes and devices which have become standard wherever oil is produced or refined. Mr. Saybolt devoted 41 years of his busy and productive life to improvements in the petroleum industry, and 36 of them were spent in the service of the Standard Oil Company.

"Few men leave behind them such a memorial as Mr. Saybolt created through his practical inventions. In more than one-third of a century that he was employed by the Standard Oil Company, he invented, beside the electric fire tester already referred to, the Wax Melting Point Tester, Petrolatum Melting Point Tester, the Universal Viscosimeter, the Furol and the Thermo Viscosimeter, (the latter for use with illuminating oils), the Universal Chronometer for testing illuminating oils for color, the Standard Testing Lamp to measure the flame strength of kerosene, a water indicator and oil sampler and a distillation flask. All of these devices came into general use and carry his name. More important perhaps, than any of these inventions was his design and perfection of the first successful gasoline absorption process.

"On June 26, 1924, a committee of the American Society for Testing Materials extended a complimentary dinner to Mr. Saybolt but he was prevented by illness from attending it. Resolutions covering his world-wide usefulness were adopted by the delegates present and later presented, beautifully engraved and bound, to the subject at his home in Jersey City."



Moore drilling derricks in La Rosa Field, on Lake Maracaibo, Venezuela. Well on left making 4500 bbls.



Another kind of "petting party." Mr. C. W. Hamilton, well known American oil man, in intimate conversation with one of his Venezuelan friends. (We are sure the Madam will not object.)

They "Come High" in Venezuela

112-Foot Moore Derricks
4500-barrel Well

In Venezuela fields, as elsewhere, wherever you go the familiar sight of Moore derricks greets the eye. Scores of these large and powerful drilling derricks are in use in these fields, and more are constantly being added, proving the truth of the saying that nothing succeeds like success.

The two derricks above are 112-foot Moore Combination drillers, in La Rosa field on Lake Maracaibo. The one on left is making 4500 bbls. The one in center is now drilling.

Proof against wind, fire, rot, and insects, Moore derricks render invaluable service in safeguarding production and heavy drilling investments.

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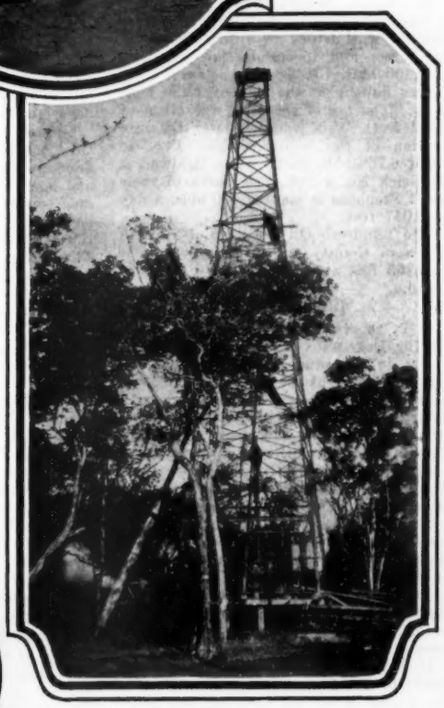

Another 112-foot Moore Driller. In Irara Field, near Maracaibo, Venezuela.

North-Central Texas Field

By Dan F. Dugan

Fewer completions, 50 per cent less in Archer County, but more drilling. Consolidated Oil Co.'s No. 3 Bearden, Ragle Pool, 500 bbls. Bridwell & Heydrick's No. 1 Stephens, South Vernon, increases to 3,000 bbls. Big Lake Co.'s No. 12 University, flowing 50 bbls. an hour. Texas Co.'s No. 1 Jeske, 620 bbls.

FORT WORTH, Tex., Nov. 3.—Production reported in the North Texas Field for the week in review totaled 122,845 bbls., against 119,175 bbls. for the previous week, an increase of 3,670 bbls. daily. Gains were reported from all of the pools. By districts, the following increases were made: Burkburnett, 180: Electra, 1,950; Iowa Park, 540; Stephens County, 795; Eastland County, 315 bbls. daily; wildcats, 890 bbls.

Completions for the past week made a decided decrease compared with the previous week. This loss can be charged to Archer County which decreased its weekly completions over 50 per cent. Thirty completions was the total for the week against 66 for the previous week, a loss of 36; oil producers numbered 15, against 40, a loss of 25; dry holes numbered 14, compared with 25 for the previous week, a loss of 11; gas wells, 1 each.

Archer County reported the largest initial producing completions, the Consolidated Oil Co.'s (formerly Knight & Hines) No. 3 Beardon for 500 bbls. at 1,085 feet. This test is located in the south section of the county.

Bridwell & Heydrick's No. 1 Stephens, in the South Vernon Field, in Wilbarger County, was drilled to a total depth of 2,047 feet and its production increased to 2,400 bbls. the first day. On Friday it was flowing at the rate of 1,280 bbls. daily. The top of the sand was given as 2,002 feet. This well increases the production of the South Vernon Pool to about 6,700 bbls. daily. The Bridwell & Heydrick No. 1 Dill, just north of their No. 1 Stephens is making 750 bbls. a day at 2,047 feet.

The Landreth Oil Co.'s No. 1 Halsell, in Foard County, was a disappointment at 3,795 feet and will probably be abandoned.

Reagan County

It is reported from San Angelo that the Big Lake Oil Co.'s No. 12 University, 3 feet in the sand a little below 3,000 feet, is flowing at the rate of 50 bbls. an hour with the tools in the hole. No. 12 is on Section 36, Block 1, about one-half mile southeast of the discovery Santa Rita, a small producer and almost in a direct line between the Big Lake Co.'s No. 4 on the East and the Texon Land & Development Company's No. 1. The well does not extend the field, but broadens it at its south end. It is the eleventh Reagan County producer and the tenth owned by the Big Lake Oil Co.

At the present speed of drilling, the Big Lake Co.'s Nos. 13 and 15 should be drilled to completion depth within a week.

It is rumored plans are being completed by the Humble Pipe Line Co. for the laying of an oil carrying line from its station in the Swastika Field, in south Archer County, through the Wichita Fields to the new South Vernon Pool, an approximate distance of 52 miles. The line, if built as rumored, will have 35 miles of 6-inch pipe to the main artery in the Electra district, and a 4-inch line from there to the Vernon Pool.

The Texas Co. has drilled into the sand and semicompleted its No. 1 Jeske in the Archer-Olney district in Archer County and in the first 24 hours it flowed 620 bbls., making one of the best completions in that field. The well, which is in Block 5, Jeske farm, is a direct offset to the west of the Carey discovery well on the E. A. Hausler land, McCoy survey. It encountered the sand at 1,133 feet and was drilled a distance of 16 feet when the well commenced to flow.

The increase in daily production for the past week was furnished from the Wichita Falls district, produced by the South Vernon Field (credited on pipe line reports to Electra) and Archer County. In the former case the gain is approximately 2,000 bbls. daily. This represents the first large quantities of the Vernon Pool oil to make its way to the market and it was moved by tank trucks.

A check of field work in Archer and Wichita Counties shows a decided increase in drilling but a loss in completions. In the south section of the district (the deep lime producing fields) development was about normal, not a sensational happening was reported. Three tests were completed in Stephens and Eastland Counties, all dry holes.

Archer County Work

During the week the greatest activity in Archer County was shown in the district along the north line of Young County and in the territory stretching from the Consolidated-Panhandle producers northeast of Olney, to the vicinity of the Maer-Staniforth No. 1 Griffin producer to the south and west.

Interest centered on the Consolidated Oil Co.'s No. 3 Bearden, which came in flowing from a sand topped at 1,063 feet and has continued to flow through the 6-inch casing since. Hundreds of people have traveled to the Ragle Pool to see this well flowing a steady stream of oil. The Ragle Pool has a number of flowing wells, but none has ever maintained its flow so steadily. Twenty-three feet of sand was drilled and it is generally conceded to be the best well yet brought in in that pool, with its production estimated at 500 bbls.

Another good well in the Carey Pool was E. S. Carey's No. 1 Bridwell, north offset to the discovery well on the Hausler, which is flowing from the sand topped at 1,130 feet, and is estimated a 200-bbl. producer, flowing natural. This test encountered two sands; first sand, which showed oil, 1,116 to 1,119 feet. This was followed by a break of 11 feet, when another sand was picked up at 1,130 feet. This sand was drilled 8 feet and it is from this horizon that the well is now producing.

The Simms Oil Co.'s No. 1 Parrish, located on Block 26, H. & T. C. Railroad survey, is swabbing and flowing by heads with an estimated production of 775 bbls. per day at 1,585 feet, making it one of the best producers to be brought in from that field during the past week.

Lane, Holbrook & Woods will bail some time this week No. 2 White, located in Lot 13, Block 34, which is showing considerable oil. The top of the pay was encountered at 1,604 feet and was drilled to 1,606 feet.

In the eastern part of the county and 2 miles north of Scotland, on the Coleman ranch, the wildcat test of Frank Beaudoin is nearing the pay depth. It is drilling at 1,520 feet and some interesting developments are looked for in the next hundred feet.

Fourteen miles west of Archer City on the Dugan land, Section 2, the wildcat well of Skinner and others has cored into an oil bearing sand at 1,527 feet and will set casing and test.

Wichita County Operations

There was no outstanding development in Wichita County the past week. A few new tests commenced drilling and these were mostly offsets being drilled by the older companies on the leases in south Electra and in the shallow fields in the Burkburnett area.

In the Beaver Creek district a few wells are drilling on the Nance and McCarty leases. On the latter, located in the northwest corner of the north 40 acres, Hammon and others are testing out the sand at 1,622 feet, which may make a producer.

After testing out the sand at 1,808 feet, showing a small amount of oil and no water, the wildcat test of the Shappel Oil Co., No. 1 Sisk, Block 21, Denton County school lands, Archer County, resumed drilling and has reached a depth of 2,060 feet, without any oil showing.

West and north of Wichita Falls, about 3 miles, the test of D. S. Donovan, No. 1 Bergfield, C Brown survey, is drilling at 500 feet.

South of the K. M. A. producers a short distance, Shappel and sons' No. 8 is setting casing and preparing to bail an oil sand at 1,730 feet.

With assurance of an ample water supply and facilities for taking care of the production, with the building of several oil carrying pipe lines ,activity in the South Vernon Pool in Wilbarger County Field will take on added impetus. Scarcity of water and the lack of pipe lines have seriously interfered with operations. Several rigs have been compelled to delay drilling on account of the water shortage and inability to get the oil to market has presented one of the most serious problems with which operators have been confronted.

The Mutual Oil Co. of Denver, with Texas headquarters in Fort Worth, has purchased an 80-acre tract out of the east 120 acres of the south 160 acres of Section 2,401 T. E. L. survey, Harmel land, to the east of the Maer-Staniforth Griffin well, Archer County, for a consideration of $80,000, half oil, half cash, and will begin the development of the new property at once.

Wichita County Completions

Beggs Oil Co.'s No. 8 Fisher, 10 bbls. at 835 feet; Drillers Development Co.'s No. 4 Douglas, 10 bbls. at 1,020 feet; Magnolia Petroleum Co.'s No. 10 Douglas, 25 bbls. at 1,055 feet; same company's No. 39 Rio Bravo, 125 bbls. at 1,675 feet; Petroleum Production Co.'s No. 10 Maer, 110 bbls. at 1,770 feet; Stacy and others' No. 2 Burnett, dry at 1,990 feet; Texhoma Oil & Refining Co.'s No. 4-A Burnett, 35 bbls. at 1,810 feet; Tom Cat Oil Co.'s No. 4-G Jennings, 5 bbls. at 435 feet; Underwood Drilling Co.'s No. 8 Maer, 85 bbls. at 1,770 feet; same company's No. 9 Maer, 25 bbls. at 435 feet.

Archer County Completions

Polk and others' No. 1 Benson, dry at 1,005 feet; Carey Drilling Co.'s No. 1 Bridwell, 200 bbls. at 1,138 feet; Consolidated Oil Co.'s No. 3 Bearden, 500 bbls. at 1,085 feet; Evangeline Oil Co.'s No. 1 Farmer, 10 bbls. at 1,265 fe... Maer and others' No. 1 Bridwell, dry ... 1,405 feet; Melat and others' No. 2 G... smith, 75 bbls. at 1,350 feet; Feathers... and others' No. 2 Farmer, dry at 1... feet; Russell and others' No. 3 Bea... dry at 1,120 feet; Saunders and othe... No. 1 Logan, 220 bbls. at 1,280 feet; ... Oil Co.'s No. 1 Falls County school la... dry at 1,650 feet; Superior Oil Co.'s ... 1 Cowan, dry at 1,150 feet; The Tex... Co.'s No. 1 Goldsmith, dry at 1,810 fe... Texhoma Oil & Refining Co.'s No. ... Jeske, 65 bbls. at 1,160 feet; same co... pany's No. 1 Wilson, dry at 1,500 fe...

Archer County Drilling

Anderson and others' No. 2 Hughe... showing a little oil and drilling at ... feet; Beaudoin and others' No. 1 Co... man, drilling in blue shale at 1,500 fe... Carter and others' No. 8 White, ... ting 6⅝-inch casing with 900 feet of ... in hole at 1,595 feet; No. 9-E Whi... drilling in soft rock at 1,400 feet; N... 2-C White, drilling in shale at 1,2... feet; Dee Brothers' No. 2 White, dri... ing at 1,300 feet; No. 1-B White, dri... ing at 590 feet; Fuller and others' N... 3 Miller, testing oil sand at 735 fe... Humble Oil & Refining Co.'s No. 2 Pu... drilling at 100 feet; Humphrey ... others' No. 6 White, has 1,200 feet of ... in hole and will test at 1,614 feet; Jet... ers and others' No. 1 Wilson, testing ... bearing sand at 1,665 feet; Jetter ... others' No. 1 White, cleaning out wi... 1,200 feet of oil in hole at 1,679 fe... Kentucky Oil Corp.'s No. 6 Parrish, dri... ing at 880 feet; Lane and others' No. ... White, drilling at 1,360 feet; Lincoln ... others' No. 1 Oil Investment Co., testi... oil sand at 1,170 feet; Magnolia Petr... leum Co.'s No. 4 Parrish, drilling at 9... feet; Maxwell and others' No. 2 Parr... reaming at 1,530 feet; Phillips ... others' No. 2 Wilson, has 300 feet ... oil in hole and cleaning out to pump ... 1,536 feet; No. 3 Wilson, showing a li... tle oil at 1,550 feet; Woodburn ... Corp.'s No. 11-A Wilson, has fishing j... at 1,515 feet; No. 12-A Wilson, drill... at 1,140 feet; Shappel and others' N... 8-B Kemp and Kemper, drilling in li... shale at 1,730 feet; Barbee and other... No. 1 Campbell, drilling at 760 fe... Carey and others' No. 1 Bridwell, pr... ducing oil and drilling at 1,140 fe... Clark and others' No. 2 Echols, drilli... at 1,220 feet; No. 3 Echols, drilling ... 1,325 feet; Consolidated Oil Co.'s N... 1-B Davis, drilling at 200 feet; No. 5... Ragle, drilling at 450 feet; No. 1... Eagle, drilling in brown shale at 8... feet; Daniels and others' No. 1 Leste... showing salt water at 1,492 feet; Eagl... Creek Oil Co.'s No. 1 Cox, drilling ... 540 feet; Featherstone and others' No. ... Vernon, drilling at 660 feet; Green ... others' No. 1 Rogers, drilling at 890 fee... Grisham and others' No. 2 Davis, drilli... at 350 feet; Hart and others' No. ... Cowan, drilling in rock at 2,020 fe... Harvey and others' No. 1 Kunkel, show... ing oil and drilling at 1,170 feet; Humbl... Oil & Refining Co.'s No. 1 Ragle, dri... ing at 760 feet; Jewell and others' No. ... Connor, drilling at 420 feet; Jones ... others' No. 1 Bearden, coring oil sand ... 1,124 feet; Krog and others' No. ... Hausler, drilling in shale at 785 fee... Lowery and others' No. 1 Harbison ... in rock at 1,260 feet; Maer and others ... No. 2 Griffin, drilling at 950 feet; No. ... 3 Griffin, drilling in brown shale at 1,0... feet; Melat and others' No. 2 Goldsmith ... swabbing 75 bbls. a day and drilling a... 1,350 feet; No. 3 Goldsmith, showing ... some oil and drilling at 1,345 feet; No. ... 5 Goldsmith, drilling at 550 feet; Murchi... son and others' No. 1 Griffin, drilling a... 1,265 feet; No. 1-B Harmel, fishing for ... bit at 850 feet; Muse and others' No. 1 ... Kunkel, showing salt water at 1,172 feet; ... Nebraska Oil Co.'s No. 1 Holsek, showing oil and drilling at 1,460 feet; Pro... ducers & Refiners Oil Co.'s No. 1 Rogers, ... drilling at 200 feet; Shamrock Oil Co.'s ... No. 7 Campbell, drilling at 500 feet; No. ... 13-B Richardson, drilling at 430 feet; ... No. 16 Goldsmith, drilling in shale at ... 1,140 feet; Sun Oil Co.'s No. 2 Green, ... drilling at 350 feet; Texhoma Oil & Re... fining Co.'s No. 2 Hausler, drilling at ... 860 feet; Underwood Drilling Co.'s No. ... 1 Rogers, ratholing oil sand at 1,240 feet.

(Contiued on Page 102)

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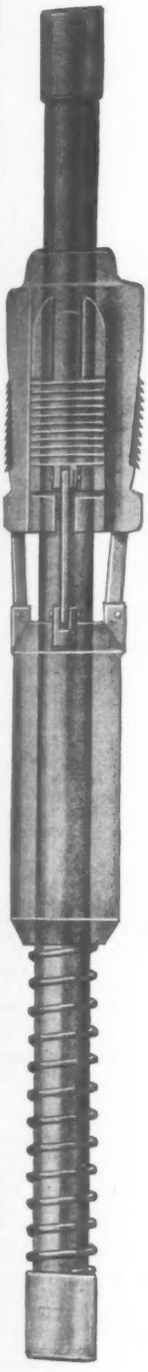

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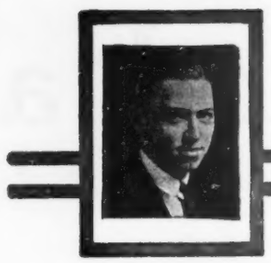


Oklahoma Field Operations

By C. D. Lockwood

Cromwell, Papoose and Wewoka Pools show an increase in production, but the Tonkawa deep sand output declined materially. New Wilcox sand pool opened in Nowata County. Important showing in Section 6-15-6, Lincoln County. Dry hole cuts off northeast end of Papoose.

Production in the Cromwell Pool in Seminole County, which increased to 45,200 bbls. on last Tuesday fell off to 44,448 bbls. on the following Friday. Friday's production figure, however, was about 2,000 bbls. higher than seven days previously. The Papoose Pool on the same day, Friday, October 31 was 17,566 bbls., a new high record and a little over 2,500 bbls. in excess of its record the previous Friday. Stroud had fallen off to 5,102 bbls., a drop of approximately 2,000 bbls., while the Wewoka Pool increased to 10,116 bbls., or 3,000 bbls. higher than on the Friday of the previous week. The combined increase in the Cromwell, Papoose and Wewoka pools, all a part of the general Holdenville area was 7,447 bbls. a day over the record of the Friday before. On October 31 the combined production was 72,080 bbls. and on October 24, 64,633 bbls.

The deep sand production in the Tonkawa Field on Friday, October 31, was given as 74,898 bbls. The Friday previous the deep sand production was 82,047 bbls. showing a drop in one week of 7,149 bbls. a day. The total production of the field on Friday was 99,718 bbls., of which 24,808 bbls. was coming from the upper sands.

Another Wilcox sand pool was discovered in Oklahoma when L. L. Coyle found a 200-bbl. initial production at 1,252 feet in a test in the north half of the southwest quarter of Section 16-28-16 in Nowata County, one of the oldest Bartlesville sand districts in the State.

The Independent Oil & Gas Co. got an important showing at the close of the week in a wildcat test on the Earp farm, SE cor. N half SE, Section 6-15-6. The well appeared to be good for 200 bbls. as it stood. The depth was given on Monday as somewhere between 3,780 and 3,790 feet, cable measurement. The well was flowing and tankage was being moved in, but it will be a week or more before the well will be drilled in. The Independent Oil & Gas Co. owns 160 acres east and 160 acres west of the 80-acre lease on which the well was drilled, so that it will drill two of the offset locations, and the Carter Oil Co. the other, just south of it, if results warrant it upon the completion of the test.

The failure of Charles L. McMahon's test No. 1 Dunson, C SE SE NW, Section 35-10-9, Okfuskee County, a half mile north of the Kingwood Oil Co.'s operations in the same section, made a very pronounced cut off to the Papoose Pool in that northeasterly direction. The McMahon test got the top of the lime at 3,375 feet and a sand with a hole full of salt water at 3,379 to 3,385 feet, total depth. The nearest producer to the southwest, the Kingwood Oil Co.'s No. 2. H. Sand, C SW SW SW, Section 35 got the top of the lime at 3,302 feet and sand at 3,306 feet, and at 3 feet in flowed 130 bbls. an hour. A dip of 73 feet in the sand from the Kingwood's No. 2 and the McMahon test will be noted.

In the Braman Pool in Kay County, opened by the Comar Oil Co. on a big block of acreage, the same company's No. 1 McCormick, C NW NW SE, Section 21-29-1w, an east offset to the discovery well, got a sand at 1,914 feet which showed a production of 10 bbls. an hour. The same company's No. 1 Harvel, SW cor. SW NE, Section 21-29-1w, was flowing by heads from sand at 1,909 feet. The company will pass up this producing sand and go down to the Hoover, in which No. 1 Duncan showed an initial production of over 2,000 bbls. The Blackwell Oil & Gas Co.'s test on the Crouch farm, SW cor. Section 10-27-1w, Kay County, got sand at 3,418-28 feet with an estimated 38,000,000-foot gas production. It has not been completed.

The Roxana Petroleum Corp.'s No. 1 Culler, C NW NE NW, Section 12-8-8, Hughes County, was flowing 1,475 bbls. of oil and 375 bbls. of water on Friday. The water was decreasing and the well showing better than it had since it came in several weeks ago.

Away over in the eastern edge of the State in Sequoyah County, W. A. Radley has a 4,750,000-foot gas well in his test on the Ralph farm, C NE SE, Section 32-11-25, from sand at 2,780-85 feet. The well is located about 15 miles southeast of the town of Sallisaw.

In southeastern Oklahoma Harris & Haun have a rig up for a test on the Majors farm, C NE, Section 12-1s-26e, in McCurtain County. This is a real wildcat, 12 miles south of a railroad and more than that distance from any town.

Production in Tonkawa

Daily average production in Tonkawa Field for week ended October 28 was as follows by companies:

Company—	Wells	Bbls.
Amerada Petroleum Corp.	35	4,563
Blackwell Oil & Gas Co.	30	2,885
Carter Oil Co.	5	165
Champlin Refining Co.	2	10
Champlin Refining Co. and Twin State Oil Co.	1	25
Comar Oil Co.	339	41,008
Cosden Oil & Gas and Marland Oil Co.	18	283
Gypsy Oil Co.	97	11,316
Healdton Oil & Gas Co.	27	1,458
Wentz Oil Corp.	45	13,694
McMan Oil & Gas Co.	1	4
Pennok Oil Co.	31	7,686
Phillips Petroleum Co.	2	97
Prairie Oil & Gas Co.	12	541
Sinclair Oil & Gas Co.	1	18
Slick and Comar Oil Co.	35	20,480
Southwestern Petroleum Co.	15	626
The Texas Co.	5	60
White Eagle Oil & Ref. Co.	7	152
Total	708	105,067
Total last week	709	99,421
Difference	1	5,646

Deep Sand Production

Amerada Pet. Corp., Goltry	2	3,557
Pennok Oil Co., Endicott	6	6,532
Comar Oil Co., Beverlin	1	2,663
Comar Oil Co., Pettit	3	6,320
Comar Oil Co., L. Endicott	3	6,933
Comar Oil Co., E. Endicott	7	12,476
Comar Oil Co., Gaume	1	2,106
Gypsy Oil Co., Shawver	4	8,415
Slick, Endicott	7	18,612
Blackwell Oil & Gas Co., McDaniel	1	1,771
Wentz Oil Corp., McKee	3	10,853
Total	38	80,238
Total last week	37	75,240
Difference	1	4,998

Daily average pipe line runs from the field were as follows: Kay County Gas Co., 25,341 bbls.; Ozark Pipe Line Co., 20,326 bbls.; Gulf Pipe Line Co., 10,537 bbls.; Champlin Refining Co., 18,100 bbls.; Bolene Refining Co., 4,079 bbls.; Globe Refining Co., 3,415 bbls.; Moore Refining Co., 5,007 bbls.; Producers & Refiners Corp., 1,004 bbls.; Enid Pipe Line Co., none; Oklahoma Pipe Line Co., 165 bbls.; Empire Pipe Line Co., 2,288 bbls.; Golden Rule Refining Co., 452 bbls.; Sinclair Pipe Line, 2,449; storage, 11,906 bbls.

Tonkawa Developments

In the Tonkawa Field, the Marland Refining Co. has commenced drilling its No. 1 Powers, NE cor. SE NE, Section 21-25-2w. The Twin State Oil Co.'s No. 2 Thomas, NE cor. NW NW, Section 22-25-2w, was drilling below 300 feet; No. 3 Thomas, NW cor. SW NW, Section 22, a rig; Wentz Oil Corp.'s No. 48 McKee CNL SW, Section 34-25-1w, drilling at 300 feet; No. 49 McKee, SW cor. NE SW, Section 34, rigged up; Blackwell Oil & Gas Co.'s No. 4-D Ruzek, NE cor. NW, Section 3-24-1w, a rig up.

The Amerada Petroleum Corp.'s No. 30 Woods, NE cor. NW NE, Section 34-25-1w, was abandoned as dry at 2,550 feet. The Comar Oil Co.'s No. 3-W Endicott, SW cor. NW SE, Section 34-25-1w, made 2,829 bbls. initial production from sand at 4,130-59 feet. McCaskey & Wentz' No. 29 McKee, SE cor. SW, Section 34-25-1w, started at 2,661 bbls. at 4,310 feet. T. B. Slick's No. 7-E Endicott, SW cor. SE SW, Section 35-25-1w, made 4,500 bbls. the first day from sand at 3,954-4,056 feet. The Blackwell Oil & Gas Co.'s No. 4-C Ruzek, NE cor. NW, Section 3-24-1w, was abandoned as dry at 4,170 feet.

The Walters Oil & Gas Co.'s No. 1-A Foreman, SW cor. NW SW, Section 21-23-1w, Noble County, was abandoned as dry at 3,004 feet.

The Comar Oil Co.'s No. 1-W Blubaugh, NE cor. NW NW SW, Section 2-24-1w, was rigging up; same company's No. 3-W Blubaugh, NW cor. SW NW SE, Section 2-24-1w, rig; same company's No. 5-W Carmichael, NE cor. SE SE NE, Section 3-24-1w, a rig.

Burbank Production

Daily average production in Burbank Field for week ended October 28 was as follows by companies:

Company—	Wells	Bbls.
Carter Oil Co.	215	12,551
Comar Oil Co.	7	176
Cosden Oil & Gas Co.	105	3,401
Devonian Oil Co.	16	207
Gardner Petroleum Co.	20	502
Gypsy Oil Co.	196	6,052
Kewanee Oil & Gas Co.	25	604
Laurel Oil & Gas Co.	16	245
Lorraine Petroleum Co.	15	162
Midland Oil Co.	16	556
Mid-Kansas Oil & Gas Co.	39	1,744
Peters Petroleum Corp.	2	190
Phillips Petroleum Co.	94	8,999
Phillips Petroleum Co. and Delmar Oil Co.	16	1,897
Phillips Petroleum Co. and Skelly Oil Co.	174	6,328
Prairie Oil & Gas Co.	106	3,040
Producers & Refiners Corp.	29	446
Roxana Petroleum Corp.	56	812
Simons-Moore et al	29	279
Sinclair Oil & Gas Co.	145	3,306
Skelly Oil Co.	21	1,228
Tidal Osage Oil Co.	43	814
The Texas Co.	6	648
Twin State Oil Co.	24	1,345
Total	1,436	56,761
Total last week	1,428	59,248
Difference	8	2,487

Kay County Extension

George Boles	3	474
Carter Oil Co.	11	1,460
Comar Oil Co.	19	1,097
Cosden Oil & Gas Co.	16	1,291
Gypsy Oil Co.	19	760
Laurel Oil & Gas Co.	5	484
Mid-Kansas Oil & Gas Co.	10	1,040
Phillips Petroleum Co.	30	3,626
Prairie Oil & Gas Co.	4	291
Pure Oil Co.	5	321
Roxana Petroleum Corp.	8	357
Dye-Tomlinson et al	8	641
Skelly Oil Co. and Phillips Petroleum Co.	20	443
The Texas Co.	16	372
Sinclair Oil & Gas	5	529
Twin State Oil Co	15	902
Total	194	14,088
Total last week	194	14,176
Difference	0	88
Total Burbank Field	1,630	70,849
Total last week	1,622	73,424
Difference	8	2,575

Daily average pipe line runs from the Burbank Field during week ended Oct. ber 28 were as follows: Gulf Pipe Line Co., 8,402 bbls.; Cosden Pipe Line Co. 6,211 bbls.; Kay County Gas Co., 6,0 bbls.; Osage Pipe Line Co., 1,011 bbls. Oklahoma Pipe Line Co., 20,164 bbls. Prairie Pipe Line Co., 3,746 bbls.; Sinclair Pipe Line Co., 3,835 bbls.; Moore Refining Co., 1,595 bbls.; Standish Pipe Co., 10,631 bbls.; Empire Pipe Line Co. 1,341 bbls.; Mid-Kansas Oil & Gas Co. 2,823 bbls.; Twin State Oil Co., 1,39 bbls.; Ozark Pipe Line Co., 1,729 bbls. total 70,849 bbls.; Delmar storage, 1,2 bbls.

Total storage in the Burbank Field o October 28, was 13,093,297.

In the Tulsa District

McFann and others' No. 1 Lowe, NE cor SE NW, Section 16-19-12, Tulsa County, was abandoned as dry at 2,29 feet.

In the Bird Creek Field, in Tulsa County, the Superior Oil Co.'s No. 1-A Blackmore, SW cor. NW SW SE, Section 26-21-13, made a 10-bbl. well after a shot at 1,223-33 feet. C. M. Hanby's No. 1-A Adair, C S half SE SE, Section 36-21-13, was shut in as a 1,000,000-foot gasser from sand at 700 to 710 feet. The National Drilling Co.'s No. 1-A Henson, SW cor. NE NE, Section 1-20-13, got a gas sand at 1,150-55 feet. The well showed for 4,000,000 feet a day and was shut in. The Elo Oil Co. got a 3,000,000-foot gas well in its No. 1, SE cor. NE NE, Section 29-20-13, in sand at 1,810-37 feet. The Schermerhorn Oil Co.'s No. 1-A Ingram, NW cor. SW, Section 6-20-14, is a 4,000,000-foot gasser in sand at 1,530-40 feet. It was shut in.

Hyer & Kester drilled to 1,000 feet and were shut down in No. 1 Elliott, SE cor. NW, Section 17-21-14, and C. M. Hank was drilling below 1,300 feet in No. 2 Henson, CWL NW NW, Section 31-21-14. Martin & Martin were drilling below 850 feet in No. 1-A Murphy, NE cor. NW NE, Section 29-20-13.

Suppes & Noble have started drilling No. 1 Berthoff, C NW NW, Section 31-17-13. The Bradstreet Oil Co. had a fishing job at 1,850 feet in No. 1 Boling, SW cor. Section 27-17-12.

In the Coweta district, Wagoner County, the Skelly Oil Co.'s No. 1 Sugar, NE cor. NW SW, Section 17-17-16, is a 3,500,000-foot gas well at 1,000-1,010 fee. Dr. Corder has a 7,000,000-foot gasser at 1,006-10 feet in No. 1 Sugar, NW cor. NE SW, Section 17-17-16. Sewell and others are spudding No. 2 Boudinot, SW cor SE NW, Section 17-17-16. Knox and others have started No. 2 Coweta Mission, SE cor. SW NE, Section 17-17-16. Hartman & Perry were drilling at 400 feet in No. 2 Mission, NE cor. SE SE SE, Section 18-17-16. Sewell & Gallegher were drilling at 1,100 feet in No. 1 McIntosh, CEL NE SE, Section 25-17-16. The Sewell Petroleum Co.'s No. 2 Childers, CWL NE NE, Section 30-17-16, was drilling at 1,000 feet.

Recent Mounds Operations

A roundup of recent developments in Mounds, Tulsa County, where a town lot campaign has been going on for some time, showed Antlers Oil Co.'s No. 1, SE cor. NE SW, Section 8-16-12, with sand at 2,007-55 feet and 2,090-2,140 feet, the well looking good for 100 bbls. a day; J. E. Crosbie's No. 1, C SW SW NW, Section 8-16-12, was abandoned as dry at 1,400 feet; Henry Oil Co.'s No. 1, SE cor. SW NW SE, Section 8-16-12, dry and abandoned at 2,415 feet. Henry Oil & Schuler's No. 1, CWL SE, Section 8-16-12, sand at 1,995-2,157 feet, 140 bbls. the first 24 hours, now good for 15 bbls. A. B. Ice's No. 1, NW cor. SW SE, Section 8-16-12, sand at 2,002-45 feet, 400 feet of oil in the hole; Jackson & Wine's No. 1, SW cor. NW SW SE, Section 8-16-12, sand at 2,022-30 feet, 400 feet of oil in the hole. Jordan & Ashley's No. 1, C N half SE SW, Section 8-16-12, dry and abandoned at 2,511 feet. Suppes and others had started drilling No. 1 Marshall, SE cor. NW SW, Section 8-16-12, and the Wilcox Oil & Gas Co. was rigged up on No. 1, NW cor. SE SW, Section 8-16-12.

The Mid-Kansas Oil Co. has a rig up

PERFECTION VAPOR PRESSURE TANKS
WOOD, AND BOLTED STEEL TANKS

Every one of our branch offices has an ample supply of Perfection Vapor Pressure Tanks in all the usually required sizes.

More Care in Selecting Lease Tanks

"Tanks are no longer just tanks."

For a wise oil operator picks them with the same care he picks any other equipment on his lease.

His tanks must have quality of course; that is they must be manufactured of the best rust-resisting steel obtainable, have no imperfections and have a generous factor of strength and durability plus.

More recently the same operator insists that his lease tanks be free from the ravages of evaporation; that they have special valves to take care of both pressure and vacuum; and when used as flow tanks, they completely separate the oil from the gas, leaving the latter available for lease fuel or for the gasoline plant.

Every one of these qualities are possessed by the PERFECTION Vapor Pressure Tank. You don't have to look further or experiment with untried propositions.

The best measure of its success is that about every company of importance in the country has made it standard lease equipment.

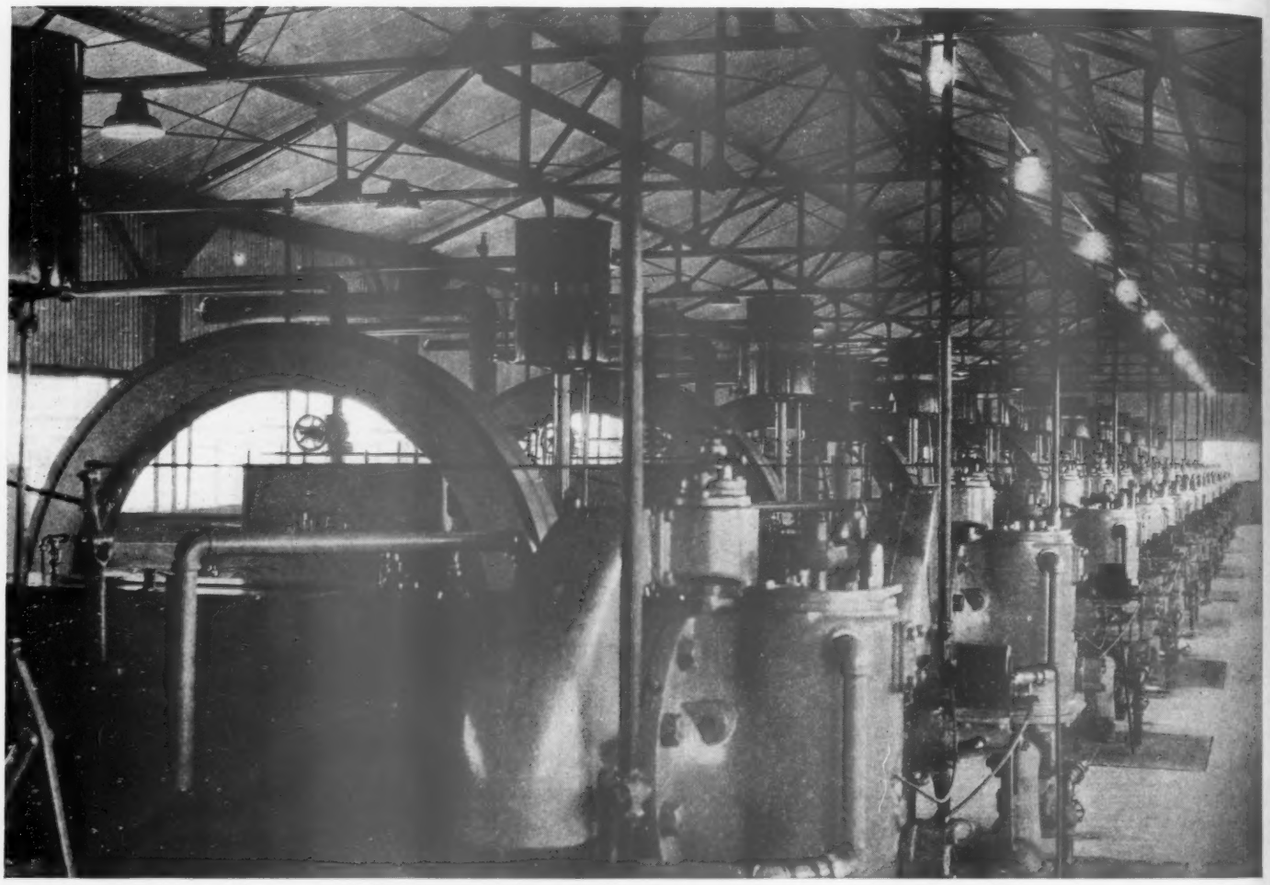
Let our representative in your district go further into details.

Black Sivalls & Bryson
INC.

BARTLESVILLE ~ OKLAHOMA

Branch offices in all principal active fields

cor. SW NE, Section 21-29-1w, was flow- 1 Powers, NE cor. SE NE, Section 21- Difference ..... $ 2,575 The Mid-Kansas Oil Co. has a rig

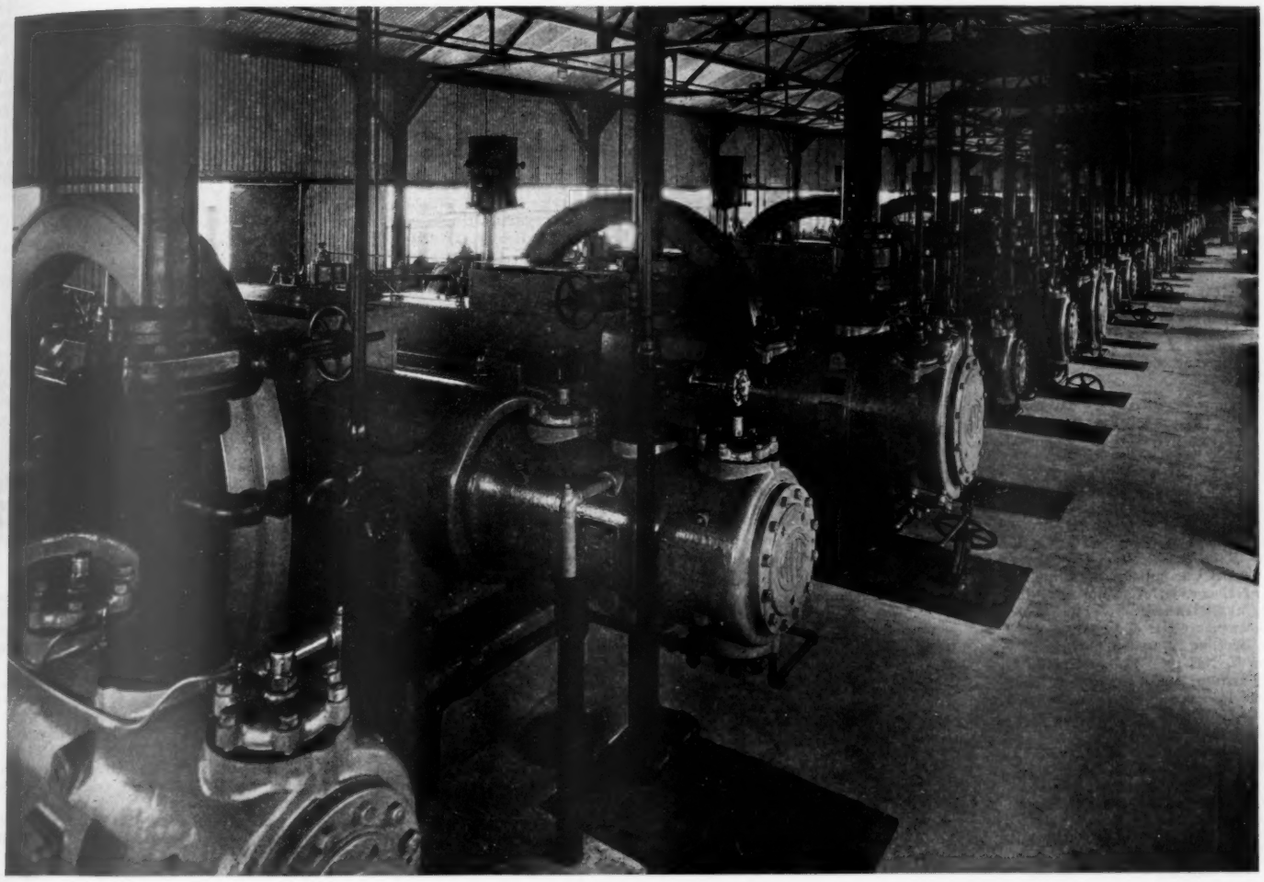


Bill Nearly Ripped the Buttons Off His Vest

Every Tuesday noon about seventy shop foremen and department heads of the Cooper organization eat lunch together in the dining room on the ground floor of the main office. The last thirty to forty minutes of the lunch hour are always spent in discussing ways of bettering Cooper engines and bettering Cooper service to the customer. If a mistake has slipped by or the wrong impression left with a customer, we tell each other about it; or if someone expresses appreciation for some special Cooper service, we share the good feeling and satisfaction that comes from it.

On the occasion in mind, Fred Thomas, Sales Manager, was telling us about Empire Gasoline Company's new Burbank Station and how he believed the Empire Company had appreciated our special effort to meet an almost impossible delivery demand. Bill Sutton's chest swelled to the limit of his vest. While not all of us knew it, it was Bill who worked his assembly gang night after night until ten o'clock and Saturday afternoons, when everyone wanted to make garden or go "flivverin" with the kids, just to measure up to Empire's confidence in the Cooper Company. That's the spirit that makes Cooper products different.

COOPER



"Will It Reduce the Cost of Gasoline?"

That was the test applied to every suggestion made in designing Empire Gasoline Company's new Burbank Plant. Everyone who had any contact with the proposed gasoline plant soon learned that it was to be no monument to anyone's pet ideas. There was just one way to get General Manager E. L. Peck's O.K. That meant that you had to show him how your suggestion would reduce his cost of operation.

The result is a simplified gasoline plant, devoid of all costly "flub dubs," that is giving as near 100% operation as it will probably ever be practically possible to get. The materials were chosen and every detail of design handled with such care that it requires but two men per shift to operate the plant. The power costs and general maintenance costs are equally low.

The photographs show both the power and compressor ends of nine 160 B.H.P. and three 80 B.H.P. Cooper Gas Engines in Empire Gasoline Company's Burbank Plant.

1605 Kirby Bldg., Dallas 504 Kennedy Bldg., Tulsa

THE C. & G. COOPER CO., MT. VERNON, OHIO

ENGINES

for No. 8, C NW SE NW, Section 26-27-5, Burbank Field, Osage County. The Phillips Petroleum Co. has commenced drilling No. 5, SW cor. NW SW NE, Section 18-27-6, and has a rig up for No. 9, NW cor. SW NW NE, Section 18-27-6.

The Texas Co.'s No. 6, C NE SW NW, Section 18-27-6, was shot in sand at 2,929-80 feet and started at 450 bbls. a day.

The Carter Oil Co.'s No. 6, C NW SE NW, Section 13-27-5, Burbank, made 150 bbls. the first 18 hours after a shot at 2,959-3,020 feet. The company has started drilling Nos. 11 and 12 on the same lease.

Marland Refining Co. has started drilling No. 4, NE cor. NW NE SW, Section 15-24-9, west of Wynona. The Barnsdall Oil Co. has a rig on the ground for No. 17A, SE cor. SW NW NW, Section 12-24-10, Pawhuska district. The Owen Osage Oil Co. is drilling No. 306 NW cor. SE SE, Section 5-23-11, Wildhorse district.

McKinney & Page's No. 2, C SW, Section 9-21-9, southeast of Hominy, was dry and abandoned at 2,667 feet.

The Phillips Petroleum Co.'s No. 2, SW cor. SE SW SE, Section 11-27-5, started at 350 bbls. after a 120-quart shot at 3,000 to 3,048 feet. The same company's No. 4, SE cor. Section 11-27-5, was a hole full of oil in sand at 2,975 to 3,025 feet.

The Superior Oil Co. has a rig on the ground for No. 1, NW cor. NE NE NW, Section 10-23-8, Hominy district. The Red Bank Oil Co. finished a failure in its No. 4, NE cor. SE NE SW, Section 20-23-8, at 3,012 feet. It has a rig up for a twin well, No. 6, SE cor. SW SE SW, Section 20, and are drilling deeper in No. 5, NE cor. SW NE NW, Section 29-23-8, total depth 2,836 feet.

C. B. Peters is deepening an old well, No. 1, SW cor. NW SW SE, Section 4-23-9, drilling at 600 feet.

The Edith Oil Co. & Smith's No. 8, NE cor. SW NE SW, Section 27-29-11, is a 10-bbl. Peru sand well at 992-44 feet. The Owen Osage Oil Co.'s No. 304, CWL SW, Section 4-28-12, was dry and abandoned at 1,760 feet. The Phillips Petroleum Co. & Skelly Oil Co.'s No. 7, C NW SE NE, Section 26-27-5, which came in at 500 bbls. naturally, was recently shot at 2,958-3,002 feet with 110 quarts and made 75 bbls. a day on the pump.

Good Wells in Seminole

W. R. Ramsey's No. 1 Rosana, C NW NE NE, Section 36-8-7, Seminole County, which started at 730 bbls. from sand aa 3,124-45 feet, was later reported flowing about 500 bbls. a day. The Boggs Oil Co.'s No. 5 Willis, C SE SE NE, Section 31-8-8, which started at 1,000 bbls. from broken sand at 3,212-23 feet and 3,270-72 feet, later fell off to 375 bbls. The Producers & Refiners Corp.'s No. 1 Amos, NE cor. SE, Section 31-8-8, which got the top of the sand at 3,258 feet, drilled in 8 feet, and the well started at 700 bbls. W. R. Ramsey's No. 1 Amos, C NE SE SE, Section 31-8-8, which got sand at 3,154-65 feet and a 5,000,000-foot gas production found oil sand at 3,230 feet, drilled in 7 feet, started at 1,150 bbls. but fell off to 700 bbls. within a week. The Shaffer Oil Co.'s No. 2 Perryman, C NW NW NW, Section 32-8-8, was plugged back to 3,156 feet after drilling into water at 3,216 feet, and is good for 75 bbls. naturally from sand topped at 3,116 feet. The same company's No. 3 Perryman, C SE SW NW, Section 32-8-8, started at 600 bbls. from sand at 3,240-43 feet.

The Roxana Petroleum Co.'s No. 3 Culler, C NW NW, Section 12-8-8, was fishing at 1,920 feet. The Boggs Oil Co.'s No. 8 Willis, C SE NE NE, Section 31-8-8, was drilling below 1,700 feet. The Dixie Oil Co. was drilling below 2,812 feet in No. 2 Walker, SW cor. NE NW, Section 32-8-8.

The Empire Gas & Fuel Co.'s No. 1 Dunn, C SW SE SE, Section 4-10-8, got sand at 3,324-3,416 feet, total depth, and started at 3,100 bbls. naturally. The Gypsy Oil Co.'s No. 1, SE cor. NE, Section 8-10-8, is at a total depth of 3,314 feet, top of the lime, and the big pipe was being pulled. The same company's No. 4 Hale, NE cor. SW NE, Section 9-10-8, was flowing 35 bbls. an hour from sand at 3,341 to 3,433 feet and No. 6 Hale, SW cor. SE NE, Section 9, had sand at 3,392 feet, drilled in 8 feet and the well was making 30,000,000 feet of gas a day. The Carter Oil Co.'s No. 2 Starr, C NE SW NW, Section 9-10-8, got the top of the sand at 3,442 feet and at 3,490 feet it was flowing 606 bbls. a day. The same company's No. 3 Starr, C SW SW NW, Section 9-10-8, was flowing 820 bbls. from sand at 3,439 feet drilled to 3,475 feet.

The Empire Gas & Fuel Co. was drilling below 1,000 feet in No. 7 Dunn, C SE NE SE, Section 4-10-8, and below 500 feet in No. 8 Dunn, SE cor. SW NE SE, Section 4-10-8. The Sinclair Oil & Gas Co. had a fishing job at 1,112 feet in No. 1 Clark, C SW NW NE, Section 4-10-8. The Southwestern Petroleum Co. had commenced drilling No. 1 Jackson, C SW SE NW, Section 4-10-8. The Waite Phillips Co.'s No. 4 Dunn, C SW NE SE, Section 4-10-8, was spudded in.

Late Gauges

The Sinclair Oil & Gas Co. and Transcontinental Oil Co.'s No. 3 Bunner, C SE NW SW, Section 9-10-8, was flowing 1,440 bbls. at the close of the week, while No. 5 Bunner, C NE NW SW, Section 9, was flowing 720 bbls. The Sinclair Oil & Gas Co.'s No. 1 Hill, C NW NE NE, Section 9-10-8, was flowing 1,290 bbls.; No. 3 Hill, C SE NE NE, Section 9, 220 bbls. and No. 4 Hill, C SW NE NE, Section 9, 2,327 bbls. Burk Greis Oil Co.'s No. 4 Brown, C NE SE SW, Section 10-10-8, was flowing 270 bbls. from sand at 3,398-3,583 feet, total depth. The Kingwood Oil Co. and Sinclair Oil & Gas Co.'s No. 1 Berryhill, C SW SW NW, Section 10-10-8, which started at 950 bbls. was down to 523 bbls. from sand at 3,369-3,468 feet. No. 2 Berryhill, C SE SW NW, Section 10-10-8, initial production 353 bbls. fell off to 272 bbls.; No. 4 Berryhill, C NW SW NW, Section 10-10-8, initial production 275 bbls., fell off to 226 bbls. The Roxana Petroleum Corp.'s No. 6 Brown, C NW SW, Section 10-10-8, was flowing 1,100 bbls. and drilling in sand found at 3,393 feet, total depth 3,484 feet. The Cosden Oil & Gas Co.'s No. 4 Willis, C NE SW NW, Section 15-10-8, which came in at 230 bbls. from sand at 3,423-3,528 feet was last reported doing 120 bbls. The Roxana Petroleum Corp.'s No. 1 Tiger, C NE SE NE, Section 15-10-8, got the top of the sand at 3,575 feet and had 1,000 feet of oil in the hole. The Carter Oil Co.'s No. 1 Roberts, C SE SE NW, Section 16-10-8, was pumping 15 bbls. a day from sand at 3,510 feet, drilled 16 feet. The McMan Oil Co.'s No. 3 Baker, C SW NW NW, Section 16-10-8, made 1,400 bbls. the first 24 hours from sand at 3,455-3,520 feet, total depth. No. 4 Baker, C NW NW NW, Section 16-10-8, flowed 2,400 bbls. the first day from sand at 3,431-3,501 feet, total depth, with the tools lost in the hole. The Kingwood Oil Co.'s No. 2 Sand, C SW SW SW, Section 35-10-9, got sand at 3,302 feet and at 8 feet in flowed 2,856 bbls. the first day. No. 1 on the lease was having pipe trouble which delayed its completion. W. R. Ramsey has commenced drilling No. 2 Chupco, C SW SW SW, Section 1-8-8, Southwestern Petroleum Co.'s No. 1 Larney, C SE SE SE, Section 2, spudding; Dixie Oil Co.'s No. 5 Foster, C SW SE SW, Section 28-8-8, drilling below 600 feet; Magnolia Petroleum Co.'s No. 2 Joshua, C SE SW SW, Section 29-8-8, a rig.

The Boggs Oil Co.'s No. 4 Willis, C NW SE NE, Section 31-8-8, is estimated at 750 bbls. from sand at 3,222-23 feet; Producers & Refiners Corp.'s No. 1 Amos, NE cor. SE, Section 31-8-8, made 650 bbls. naturally from sand at 3,264 feet, drilled in 2 feet. W. R. Ramsey's No. 1 Amos, C NE SE SE, Section 31-8-8, got gas sand at 3,154-65 feet and oil sand at 3,235 feet, drilled in 2 feet. It made 1,150 bbls. the first day. W. R. Ramsey's No. 1 Bowlegs, C NW NW NW, Section 31-8-8, found sand at 3,052-60 feet and a 10-bbl. production. Drilling was continued.

Hughes County

East of Wetumka, in Hughes County, the Mid-Kansas Oil Co.'s No. 1, SW cor. NE SE, Section 4-9-11, was shot with 20 quarts in sand at 2,937-46 feet and made 127 bbls. the following 24 hours. The Tidal-Osage Oil Co.'s No. 3 Holt, C SW NW NE, Section 9-9-11, made 50 bbls. naturally from sand at 3,035-40 feet and the same company's No. 1 Lucy, C SE NE NW, Section 9-9-11, started at 107 bbls. a day at 3,075-98 feet. The well was to have been deepened.

The Mid-Kansas Oil Co. was drilling its No. 3 Bruner, C NW SE SE, Section 9-9-11, below 800 feet.

The Tidal Oil Co.'s No. 1 Lucey, C SE NE NW, Section 9-9-11, started at 90 bbls. from sand at 3,075-98 feet.

The Independent Oil Co. has a rig up for No. 3 Alexander, C NE NW NE, Section 2-9-9. Cosden Oil & Gas Co.'s No. 12 Alexander, C NW SW NW, Section 3-9-9, a rig; Thomas B. Slick's No. 2 Grayson, C NE NW SE, Section 3-9-9, drilling below 400 feet; Mutual Oil Co.'s No. 1, C SE NW NW, Section 4-9-9, a rig; Cosden Oil & Gas Co.'s No. 7 Alexander, C NE NE NW, Section 3-9-9, a rig; No. 8 Alexander, C NW SE NW, Section 3, a rig; T. B. Slick's No. 1 Grayson, C SW SE NE, Section 3-9-9, drilling below 350 feet; Transcontinental Oil Co.'s No. 6 Tiger, C NE SE NE, Section 4-9-9, a rig; Skelly Oil Co.'s No. 2, C NE SW NW, Section 4-9-9, rig; Transcontinental Oil Co.'s No. 2 Carter, C NE NE NE, Section 5-9-9, a rig.

The Magnolia Petroleum Co.'s No. 2 Brown, C NW NE SE, Section 18-9-9, was bailing 100 bbls. from sand at 3,069 feet drilled in 3 feet; Gilcrease's No. 2 Simon, C NW NE NW, Section 20-9-9, swabbed 40 bbls. from sand at 3,066 feet, drilled in 11 feet. The Wilcox Oil & Gas Co.'s No. 2 Brown, C SW SW NW, Section 17-9-9, was dry and abandoned at 3,550 feet.

Okfuskee County

Webster and others are rigged up on No. 3 Tarvin, Jr., NW cor. SW, Section 3-11-11, Okfuskee County. Waite Phillips Co.'s No. 5 Barnett, NE cor. SW NE, Section 13-11-11, lost the hole at 2,890 feet. Lyons & French were fishing for pipe at 2,790 feet in No. 5 Ingram, NE cor. SE NW, Section 13-11-11. The well shows 14,000,000 feet of gas and some water in sand at 2,770-90 feet.

The Kiener Oil Co. is drilling below 450 feet in a test on the Hicks farm, C SE NE SW, Section 4-13-8.

The Amerada Petroleum Corp.'s No. 1, C NW NE NE, Section 20-12-10, north-

(Continued on Page 111)

ANOTHER LARGE DROP IN INITIAL PRODUCTION RECORDED LAST MONTH

Another substantial decline in initial production of wells completed in oil fields of the United States east of California was recorded during October as compared to September. The total first days' production of the new wells totaled 154,646 bbls. in October as compared to 212,708 bbls. for completions in September. There were 64 less wells completed in October than in September. New work showed a slight increase during October, there being 4 more rigs and 68 more drilling wells.

Summary of All Fields

Field—	Comp.	Prod.	Dry	Gas
Eastern	362	1,608	49	68
Lima	63	737	6	5
Central Ohio	44	110	14	28
Indiana	9	190	3	1
Kentucky	156	2,123	35	7
Illinois	21	597	10	0
Kansas	74	8,228	35	3
Oklahoma	300	79,321	78	40
N. Cent. Tex.	216	13,790	85	6
E. Cent. Tex.	19	7,868	5	0
Gulf Coast	68	13,792	18	1
S. W. Texas	29	5,265	5	2
Louisiana-Ark.	91	13,370	16	20
Wyoming	58	6,047	5	3
Montana	17	1,035	5	0
Colorado	3	0	2	0
Utah	1	0	0	1
New Mexico	5	565	2	0
Total October	1,534	154,646	373	185
Total September	1,598	212,708	397	170
Difference	64	58,062	24	15

Rigs and Wells Drilling

Field—	Rigs	Drg.	Ttl.
Eastern	182	408	590
Lima	3	64	67
Central Ohio	24	80	104
Indiana	1	18	19
Kentucky	6	201	207
Tennessee	3	17	20
Mississippi	6	20	26
Alabama	0	11	11
Georgia	1	4	5
Illinois	6	23	29
Kansas	68	306	374
Oklahoma	175	1,142	1,317
North Central Texas	67	270	337
East Central Texas	14	74	88
Gulf Coast	26	93	119
Southwest Texas	96	383	479
Louisiana-Arkansas	59	196	255
Wyoming	90	331	421
Montana	20	38	58
Colorado	17	68	85
Utah	2	26	28
New Mexico	2	25	27
Total October	868	3,798	4,666
Total September	864	3,730	4,594
Difference	4	68	72

OKLAHOMA

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Osage	69	17,723	10	5
Tulsa	16	235	6	4
Okmulgee	19	432	7	7
Creek	37	3,989	13	3
Seminole	44	20,450	7	1
Okfuskee, Hughes, McIntosh	22	4,081	9	4
Muskogee-Wagoner	13	20	7	6
Pawnee	16	4,705	2	1
Payne	2	20	0	1
Lincoln	5	530	1	0
Kay	18	23,309	2	1
Garfield-Noble	4	1,878	1	1
Carter	15	1,196	3	2
Stephens-Cotton	9	252	3	3
Miscellaneous	11	401	7	2
Total October	300	79,321	78	40
Total September	366	122,213	131	20
Difference	66	42,892	53	20

Rigs and Wells Drilling

County—	Rigs	Drg.	Ttl.
Washington-Nowata-Rogers	0	16	16
Osage	25	93	118
Tulsa	13	30	43
Okmulgee	12	50	62
Muskogee-Wagoner	4	37	41
Seminole	15	206	221
Okfuskee, Hughes, McIntosh	20	101	121
Creek	31	114	145
Pawnee	5	49	54
Payne	4	11	15
Lincoln	5	40	45
Kay	16	86	102
Garfield-Noble	7	78	85
Carter	4	55	59
Stephens-Cotton	3	32	35
Miscellaneous	11	144	155
Total October	175	1,142	1,317
Total September	204	1,010	1,214
Difference	29	132	103

KANSAS

County—	Comp.	Prod.	Dry	Gas
Butler	2	20	1	0
Cowley	13	4,373	4	0
Chautauqua-Elk	10	300	5	2
Greenwood	13	350	5	0
Marion	2	300	0	0
Montgomery	16	1,785	7	0
Russell	5	600	1	0
Miscellaneous	13	0	12	1
Total October	74	8,228	35	3
Total September	53	2539	23	2
Difference	21	5,689	12	1

Rigs and Wells Drilling

County—	Rigs	Drg.	Ttl.
Butler	6	16	22
Cowley	12	48	60
Chautauqua-Elk	5	28	33
Greenwood	17	37	54
Marion	0	4	4
Montgomery-Wilson	9	44	53
Russell	1	15	16
Miscellaneous	18	114	132
Total October	68	306	374
Total September	60	300	360
Difference	8	6	14

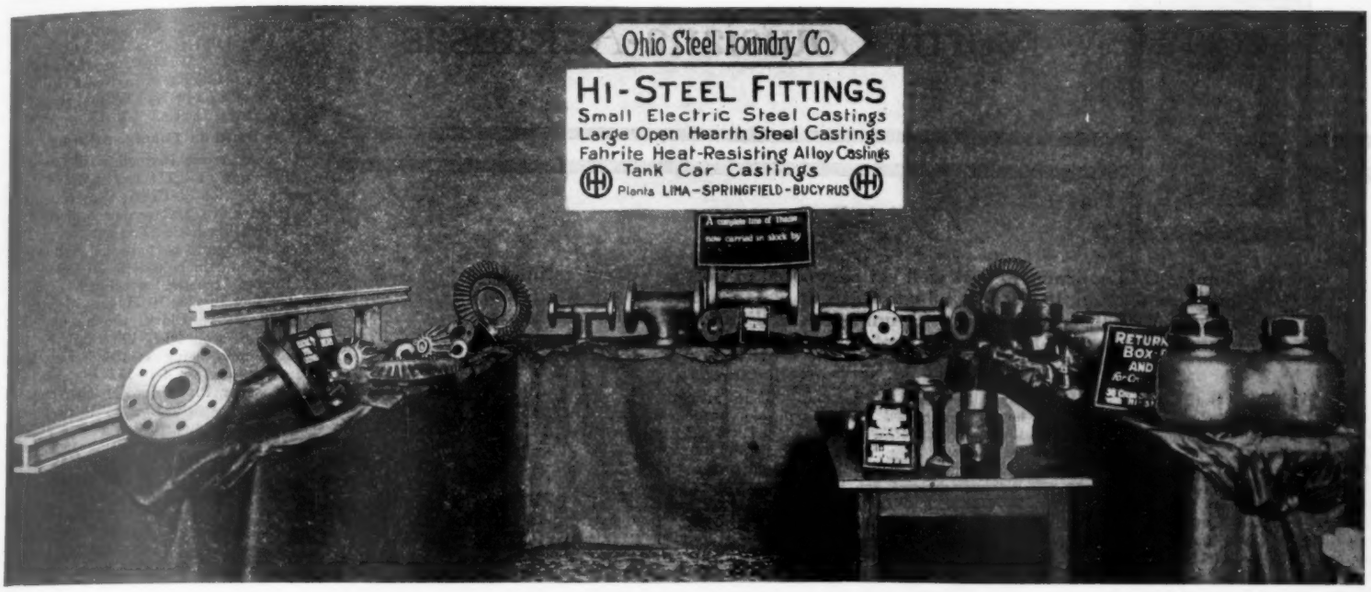
EASTERN FIELDS

Fields—	Comp.	Prod.	Dry	Gas
Allegany	19	27	0	0
Bradford	94	218	4	0
Middle Field	6	13	2	0
Venango-Clarion	37	43	2	3
Butler-Armstrong	23	34	5	5
Southwest Pennsylvania	13	16	3	9
West Virginia	71	432	13	34
Southeast Ohio	94	825	20	17
Total October	362	1,608	49	68
Total September	403	1,899	58	76
Difference	41	291	9	8

Rigs and Wells Drilling

Fields—	Rigs	Drg.	Ttl.
Allegany	11	14	25
Bradford	26	80	106
Middle Field	2	3	5
Venango Clarion	2	24	26
Butler-Armstrong	13	14	27
Southwest Pennsylvania	10	35	45
West Virginia	80	138	218
Southeast Ohio	38	100	138
Total October	182	408	590
Total September	143	419	562
Difference	39	11	28

(Continued on Page 129)



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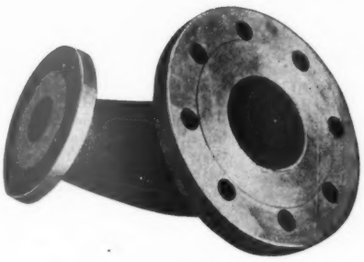

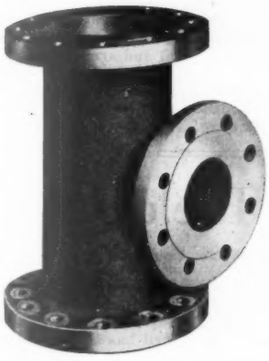

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PLANTS IN
Springfield
Lima
Bucyrus

was being pulled. The same company's Stephens-Cotton .....

North Louisiana-Arkansas

By M. L. Vaughn

Humble Oil Co. brings in best well yet completed in Cotton Valley; estimated initial production, 10,000 bbls.; 5 per cent salt water and 3 per cent b. s.; later put at 5,000 bbls. Louisiana Oil Refining Co. well extends Cotton Valley production southwest. Dixie Oil Co. gets big gasser in new sand, Caddo Parish.

SHREVEPORT, La., Nov. 3. — With drilling operations slowed down to a minimum and new production less than it has been for several years past, production figures are still on the down grade, although the decrease for the past week was only 1,398 bbls. a day. The decrease in the North Louisiana elds was 1,027 bbls. and that in South Arkansas was 371 bbls. North Louisiana's production averaged 53,296 bbls. a day during the past week and South Arkansas produced 122,609 bbls., a total of 175,905 bbls., distributed as follows:

North Louisiana

Bellevue	4,990
Caddo light	9,597
Caddo heavy	2,037
Cotton Valley	6,845
De Soto and Red River	4,825
Elm Grove	677
Haynesville	17,120
Homer	7,205
Total	53,296

South Arkansas

El Dorado	11,840
Nevada County	1,490
Smackover light	33,784
Smackover heavy	73,295
Stephens	2,200
Total	122,609
Total both fields	175,905
Decrease	1,398

Completions

Union County, Arkansas

For the first time since the El Dorado Field was opened, not a single producing well was completed during the week in this district. Lanier and others abandoned their test on the Saxon lease in Section 16-16-16, at 2,308 feet.

Ouachita County

Completions in the Smackover Field, in Ouachita County, numbered, 4 of which 3 were producing oil wells with an aggregate initial production of 175 bbls., and the fourth a small gas well.

The Forest Oil Co. completed No. 5 D. Minor, Section 29-15-16, making 5,000,000 feet of dry gas at 1,947 feet.

Peace and others completed No. 1 Hildreth, Section 27-15-17, making a 15-bbl. pumper at 2,333 feet.

Rowe & Farrall completed No. 1 Minor, Section 20-15-16, flowing 100 bbls. at 2,327 feet.

Sutton and others completed No. 7 Hughes, Section 28-15-16, swabbing 60 bbls. at 2,309 feet.

Cotton Valley

The best well yet completed in the Cotton Valley district was brought in by the Humble Oil Co. on the M. S. Davis lease in Section 24-21-10. The well came in at 2,518 feet in 18 feet of sand, with an estimated initial production of 10,000 bbls., 5 per cent salt water and 3 per cent b. s. Later estimates place the production at 5,000 bbls. but an accurate gauge has not been obtained.

The Ohio Oil Co.'s No. 5 Bodcau in Section 15-21-10, is pumping 160 bbls. at 2,532 feet, with 6 per cent salt water.

The Gulf Refining Co. completed No. 1 W. Cox, Section 15-21-10, making 25,000,000 feet of gas with a spray of oil and salt water at 2,525 feet.

Caddo Parish

Of utmost importance to this territory was the completion of a big gas well in an entirely new sand in the Pine Island district by the Dixie Oil Co. The well was completed at 3,450 feet, nearly 500 feet lower than the deepest well ever drilled in this territory, and is estimated at 40,000,000 feet. It is on the Robertshaw lease, No. 43, Section 13-21-15, and hope is expressed this may develop into the discovery of a new oil sand in this territory.

Another gas well was completed in the Waskom district, the Waterman Drilling Co.'s No. 1 Waterman in Section 18-17-16, making 9,000,000 feet of gas at 962 feet.

An unmistakable showing of oil has been developed by Collins and others in their wildcat test on the Levy Realty & Planting Co. lease in Section 23-19-14, 8 miles south of Shreveport and between the Bethany and Elm Grove gas districts. The well is pumping 5 bbls. of oil with considerable salt water at 2,549 feet.

The Louisiana-Texas Community Oil Co. abandoned its test on the Rodessa Oil & Land Co. lease in Section 15-23-16, at 3,131 feet. The well is about 5 miles north of Vivian.

Bienville Parish

Borden and others abandoned No. 1 Thomas in Section 8-16-9, 4 miles east of Lake Bisteneau, at 2,867 feet.

Bossier Parish

In the Elm Grove district, Davis & Burch completed No. 3 Hodges, Section 22-16-12, making 7,000,000 feet of gas at 834 feet.

In the Bellevue Field, Bossier Parish, the Autry Oil Co. got salt water at 348 feet in No. 6 Smith, Section 26-19-11, and the well has been abandoned.

Hempstead County, Arkansas

G. W. Simmons, Trustee, abandoned No. 1 Adams, Section 36-12-27, at 2,700 feet.

Little River County

The Red River Valley Oil Co. abandoned No. 1 Toland Taylor, Section 29-13-29, at 2,790 feet.

Nevada County

Lockhart and others abandoned No. 1 Cornelius, Section 17-10-22, at 1,280 feet.

Wiseman and others abandoned No. 1 Suckle, Section 1-10-23, at 1,074 feet.

Drilling Operations

Union County, Arkansas

Arkansas Fuel Oil Co. is drilling in rock at 2,603 feet in No. 2 Dumas, Section 29-16-15; Baggott and others set 10-inch casing at 60 feet in No. 1 Clark, Section 21-16-15, and drilling at 300 feet; H. E. Clark lost the hole at 1,000 feet in No. 2 Neely, Section 1-16-17 and skidded over 10 feet west and set 10-inch casing at 100 feet.

Estes and others set 6-inch casing at 2,263 feet in No. 3 Freeman, Section 1-16-17, and tested dry with small showing of oil, arranging to deepen; have derrick up for No. 4 Freeman, same section; Flo Ark Oil Co. bailed 4½-inch casing dry at 2,279 feet in No. 1 Murphy, Section 36-16-16 and arranging to deepen.

W. H. Gilliland Oil Co. set 10-inch casing at 112 feet in No. A-1 Hodges, Section 6-16-16; Gladys-Belle Oil Co. set 12-inch casing at 151 feet in No. 1 Thompson, Section 7-16-15.

Gulf Refining Co. set 10-inch casing at 96 feet in No. 22 L. Werner, Section 5-16-16, and rigging up No. 23 L. Werner, Section 6-16-16; Imperial Oil Co. set 10-inch casing at 199 feet in No. 3 Smith, Section 29-17-14; E. M. Jones, sidetracking bit at 1,194 feet in No. 1 Murphy, Section 26-16-16.

D. J. Johnson, trustee, has derrick up for No. 1 Ford, Section 17-17-15; Kouri and others temporarily abandoned No. 2 Moore, Section 24-16-16.

Lion Oil & Refining Co. set 6-inch casing at 2,272 feet in No. 5 Graves, Section 3-16-15, and 4 feet of sand at 2,280 feet.

Magnolia Petroleum Co. is waiting on Standard rig with hole full of oil and 18 feet of sand at 2,318 feet in No. B-3, Campete-Campbell, Section 13-16-17; Marine Oil Co. set 12-inch casing at 72 feet in No. 2 Hays, Section 4-16-15.

Natural Gas & Petroleum Co. drilling No. 3 Frazier, Section 1-18-16, at 1,375 feet; P. F. O'Brien made location for No. 1 fee, Section 13-19-17.

Ohio Oil Co. is waiting on standard rig with 300 feet of oil and 17 feet of sand in hole at 2,117 feet in No. 4 Scott, Section 19-16-15; Pure Oil Co. set 10 inch casing at 63 feet in No. 10 Craig, Section 15-16-15; 6-inch casing stuck at 2,075 feet in No. 2 Wilson, Section 20-16-15.

Sam Richardson set 6-inch casing at 1,912 feet in No. 4 E. G. Murphy, Section 23-16-15; Rutledge and others set 10-inch casing at 108 feet in No. 3 Hodges, Section 6-16-16, and drilling at 1,100 feet.

Sims Oil Co. set 10-inch casing at 40 feet in No. 1 Laney heirs, Section 8-16-16; Star Oil Co., bailing to test 8 feet of sand at 2,044 feet in No. 3 Burton, Section 25-16-15.

The Texas Co. is sidetracking 4½-inch casing at 2,181 feet in No. 5 Alphin, Section 3-16-15, and temporarily abandoned this well at 2,220 feet, drilling lime at 2,084 feet in No. 1 McAdoo, Section 15-16-16.

United Central Oil Corp. set 6-inch casing at 1,951 feet in No. 5 Craig, Section 15-16-15; Wabler and others milling out bit at 1,250 feet in No. 1 Williams, Section 36-17-14; Nye Wilson, rigging up No. 3 Hays, Section 4-16-15.

Ouachita County, Arkansas

The Arkansas Invincible Oil Co. set 6-inch casing at 2,114 feet in No. 3 Myrr estate, Section 30-15-16; Bray-Hawthorne tested dry No. 1 Copenhagen, Section 13-15-17, with a little 27 gravity oil at 2,13[illegible] feet; arranging to bail this well with 7 feet of sand in hole at 2,129 feet.

Burton, trustee, set 6-inch casing at 2,254 feet in No. 10 Hughes, Section 28-15-16; H. E. Clark, rigging up No. 1 Smith, Section 26-15-17; Clark & Melin set 10-inch casing at 154 feet in No. 2 Murphy, Section 4-16-15.

Crusader Pipe Line Co. has completed No. 1 Snow, Section 22-13-16 to contract depth and waiting orders at 2,500 feet; Duho Oil Co. waiting on standard rig with 100 feet of oil and 18 feet of sand in hole at 1,928 feet in No. 12 McKenzie, Section 26-15-16; El Dorado Union Oil Co., drilling No. 7 Hughes, Section 28-15-16 at 2,000 feet. This was formerly reported as No. 6 Hughes, same section.

Galloway and others set 6-inch casing at 2,220 feet in No. 5 Hughes, Section 28-15-16; Hildreth and others milling through casing at 2,040 feet in No. 1 Mullins, Section 28-15-16. This is an old well drilling deeper.

Hunt and others set 6-inch casing at 2,219 feet in No. 1 Green, Section 22-15-17, bailing to test 45 feet of broken sand at 2,295 feet.

Magnolia Petroleum Co. set 6-inch casing at 2,275 feet in No. 1 Clawson, Section 26-15-17; waiting on standard rig with 500 feet of oil and 9 feet of sand in hole at 2,255 feet in No. 2 Nettie Patton, Section 32-15-16; waiting on standard rig with 700 feet of oil and 3 feet of sand in hole at 2,270 feet in No. 4 W. F. Patton, Section 13-15-16.

Mazda Oil Co. tested dry No. 1 Fincher, Section 29-15-16, with 21 feet of sand in hole at 2,258 feet; small showing of oil and arranging to drill deeper.

McCorkle and others are waiting on standard rig with 14 feet of sand and 1,200 feet of oil in hole at 2,314 feet in

(Continued on Page 96)

News from Fields of Canada

By Victor Lauriston

CHATHAM, Ont., Nov. 1.—In the Canadian West, the latest official statement regarding the new test by Imperial Oil, Ltd., in the Far North indicates that a small production was secured, though the drilling did not reach the principal producing horizon of the Fort Norman discovery well. In No. 2, located close to the discovery and which started drilling this summer, a depth of 975 feet had been reached before operations had to be suspended so the drilling crews might leave for the south by the last boat. The 10-inch casing was taken down to 935 feet and everything left in good shape for continuing the work next season. Owing to a difference in elevation at the depth reached the No. 2 well did not reach the principal producing horizon of No. 1, but numerous indication of oil were met with in the hole. The largest flow was encountered at 895 feet and is good for 2 or 3 bbls. a day.

In the Okotoks Field, southwest of Calgary, Royalite Oil Co.'s No. 4, Section 7-20-2w-5 is estimated good for 21,000,000 feet a day. The gas is fairly wet and a certain amount of oil is coming along with it. Owing to the pressure, the tools have been blown up a considerable distance and are stuck in the hole, and some difficulty may be experienced before the tools can be got clear and a definite test made of the well. It is unofficially reported that after being shut in for a couple of days with a 2,000-lb. valve and running up a pressure of 1,200 lbs. the gasser blew loose, blowing the valve and casing out of the hole. The well has since been blowing open.

Irma-Wainwright

In the Irma-Wainwright Field, east central Alberta, Maple Leaf Oil Co. No. 1, Section 24-25-8w-4 is putting in the 2½-inch tubing. Dr. E. T. Elworthy and R. Offord of the Geological Survey, have been taking samples of the gas to determine the gasoline and helium content. The production of this gasser, regarding which various conflicting reports have been published, is now estimated at 2,500,000 feet a day with 720 lbs. rock pressure. When the tubing has been put in an effort will be made to agitate the sands to develop oil production. Maple Leaf No. 2, Section 24-45-8w-4 has the derrick up and the rotary outfit from No. 1 has been transferred. This test will sand in within a few days.

British Petroleums, Ltd. has experienced a change in management. Field Superintendent N. W. Emmens and his assistant, V. C. Lamb, have resigned and B. Travis, previously head driller, has been placed in charge of the work at the wells. The company's Edmonton office has been closed and all the work will be directed from Wainwright.

British Petroleums No. 5 is reported rigged up and ready to spud in, about one-eighth of a mile east of No. 4. No

(Continued on Page 100)

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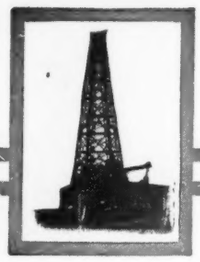


Kansas Oil Field News

By C. D. Lockwood

Another Wilcox sand pool opened in Kansas by Thomas B. Slick when his No. 1 Carson in township north of Rainbow Bend Pool in Cowley County began flowing at rate of 40 bbls. an hour. Well on edge of town of Coffeyville starts at rate of 20 bbls. hourly. Big Elk County gasser.

Thomas B. Slick, a persistent wildcatter, with most excellent judgment in picking out the good spots, opened another Wilcox sand pool in Kansas in the past week in the township north of the Rainbow Bend Pool in Cowley County. Slick's No. 1 Carson, SW cor. NE, Section 19-23-3e, got sand at 3,424 feet and at 5 feet in the well began flowing about 40 bbls. an hour of oil of about 40 gravity. There was no storage provisions at the well and the oil was at first permitted to flow into the slushpit until earthen storage had been thrown up. Slick owns the northwest, northeast and southwest quarters of the section and the Carter Oil Co. the southeast quarter and already locations have been staked for three offsets to the discovery well. The Marland Refining Co. is laying a pipe line to the well.

The new well is located 3 miles north and 2 miles west of the Graham Pool, opened in Section 9-33-3 by the Alcorn Oil Co., which has been added to by the Gypsy Oil Co. with an 800-bbl. well in No. 1 W. J. Poor, SW cor SE, Section 3-33-3, in sand topped at 3,524 feet and drilled in 5 feet.

T. B. Slick has over 1,000 acres in the neighborhood of the well on the Carson farm and appears to be in a position to make a big killing.

One of the largest gas wells ever completed in southern Kansas is that of Hope Petroleum Co. in Section 33-30-13, Elk County, north and west of Elk City. It is said that this well got the Burgess sand at 1,560 feet where a 75,000,000-foot gas production was uncovered. This test was intended to drill to the second break in the Mississippi lime.

The well was shut in and is being permitted to flow 3,000,000 feet a day.

Fitzpatrick, French, Rhodes & Lewis' No. 1 Bigley, on the edge of the town of Coffeyville, Montgomery County, Section 1-35-16 was reported to have started off at 20 bbls. an hour from the Wilcox sand. The top of the Mississippi lime was found at 882 feet. Wilcox sand was found at 1,213 feet and the well was drilled in 3 feet. The oil is between 24 and 25 degrees in gravity and resembles the crude produced in the Lamb Pool nearby.

Chautauqua-Elk Counties

The Sinclair Oil & Gas Co.'s No. 2 Porter, NE cor. SE NE SE, Section 11-29-8, Elk County, shut down after drilling to 2,115 feet. Roth and others have a 120-bbl. initial producer after a shot at 1,994-2,032 feet in their No. 7 Porter, SE cor. SW SE SW, Section 12-29-8. The Empire Gas & Fuel Co.'s No. 1 Porter, NW cor. Section 13-29-8, was abandoned as dry at 2,098 feet. Wilson & Phillips drilled to 2,616 feet before abandoning their No. 4 Harris, SW cor. NE SW, Section 27-29-9 which found nothing at the regular sand depth. The Ohio Fuel Co.'s No. 2 Smith, C NW NE, Section 28-29-9 was shut in as a gasser. It is good for 1,000,000 feet at 1,747-52 feet. The Watchorn Oil & Gas Co.'s No. 1 Denton NE cor. NW NW, Section 3-30-9 made a 50-bbl. well after a shot in sand at 2,262-76 feet. A rig is up for No. 2 Dent on NW cor. NE NW, Section 3-30-9.

In Chautauqua County, the Jens Marie Oil Co. abandoned a failure, No. 1 Fisher, NE cor. NW, Section 33-33-9. Harwood & Winters drilled a dry hole in No. 1 Hoffman, NE cor. SW SE, Section 31-32-14 at 1,773 feet.

Clark and others' No. 1 Protsman, C NE NE NE, Section 7-28-11, Elk County, was dry at 1,280 feet. The L. K. Oil Co.'s No. 1 Hughes, NE cor. NW, Section 28-23-11, was abandoned as a failure at 1,833 feet. The Southwestern Gas Co.'s No. 1 Walker, NE cor. Section 14-31-10 started at 45 bbls. naturally from sand at 1,335-42 feet.

John Croft's No. 1 McAllister, NW cor. NE SE, Section 28-32-10, got sand at 1,945-85 feet and started at 40 bbls. a day naturally. Roth and others' No. 1 Call, SE cor. SW NE, Section 36-33-10 was abandoned as dry at 2,290 feet.

The Pennok Oil Co. has a machine in for No. 2, SW cor. SE NW, Section 30-30-11, Elk County.

Cowley County

Waite Phillips Co. and others' No. 4 Wertman, C SE SW NE, Section 20-33-3, Rainbow Bend Field, Cowley County, was good for 1,400 bbls. naturally from sand at 3,194 to 3,224 feet.

J. A. Hull had a rig up for No. 5 Newman, NE cor. SW, Section 24-32-4.

Hartman & Skaer's No. 1 Dowler, NW cor. Section 34-33-4 was abandoned as dry at 3,658 feet.

The Alcorn Oil Co. has a rig up for No. 1 Cochonour, NW cor. SE, Section 26-32-3.

The Arkansas Fuel Co.'s No. 1 Brent, SE cor. NE, Section 12-32-4, was shot with 20 quarts in sand at 2,564-78 feet and made a 20-bbl. well.

Waite Phillips' No. 6 Wertman, NE cor. SE NW, Section 20-33-3, made a 200-bbl. well at 3,192-3,222 feet. The production of the Rainbow Field in the past week was 8,055 bbls. a day.

In Russell County the Skelly Oil Co.'s No. 1 Harberger, NW cor. SE, Section 14-12-14w was abandoned as dry at 3,512 feet. Sterns & Streeter's No. 2 Oswald, C NE SW SW, Section 8-12-15w, was drilling at 200 feet.

In Phillips County, in the northern part of the State, Good & Crouse have started drilling a test, No. 1 McKinley, C NW NW NE, Section 13-5-18w.

In Osborne County the Delhi Oil & Gas Co.'s No. 1 Dorman, SW cor. Section 20-10-11w, was abandoned at 3,470 feet, a hole full of water.

The Kingwood Oil Co. will drill a test on the Ellerton farm, C SE Section 21-19-6, Chase County.

In Marion County, the Phillips Petroleum Co.'s No. 1 Bennington, SW cor. NW SW, Section 30-22-5 was abandoned as dry at 2,505 feet.

In Butler County, G. L. Ramsey's No. 1 Meyers, SE cor. NE SW SW, Section 27-28-5, was good for 25 bbls. after an 80-quart shot at 2,761-87 feet.

Parish and others will drill a test on the Guy farm, SW cor. NE NW, Section 29-23-15, Woodson County.

The Liberty Tex Oil Co. shut down at 750 feet in No. 1 Wright, NE cor. Section 9-12-6, Pottawatomie County.

In Greenwood County

Manben and others' No. 1 Rixey, SW cor. SE, Section 11-23-14, Greenwood County, was a failure at 1,675 feet. The Oklahoma Producing & Refining Corp.'s No. 1 Pitcher, SE cor. NW, Section 15-23-14, was abandoned as dry at 1,585 feet.

Swartz and others are drilling below 800 feet in No. 1 Jones, CSL SE Section 31-21-12.

Roth & Faurot's No. 4 Cartwright, NE. cor. Section 1-24-9, came in at 125 bbls. a day naturally from sand at 2,324-64 feet.

The Theda Oil Co. has a rig up for No. 1 Pixley, SW cor. SE, Section 8-22-10. The Tidal Oil Co. has made a location for No. 3 South, NE cor. SE SW, Section 22-22-11.

Bason and others' test on the Carrington farm, CEL SE SE Section 5-25-9, was dry and abandoned at 2,503 feet.

The Derby Oil Co. made a 175-bbl. well out of No. 13 Moss, CNL NW, Section 30-25-9, in sand at 2,440-70 feet, shot with 100 quarts.

The Roxana Petroleum Co.'s No. 4 Marshall, CSL NW, Section 34-24-9, was shot with 120 quarts at 2,280-2,310 feet and started at 180 bbls.

Montgomery County

S. C. Canary drilled a failure in his No. 1 Levingood, NW cor. SE NW, Section 17-33-14, Montgomery County. The test was drilled to a total depth of 1,564 feet. The top of the lime was found at 1,592 feet. Kors and .others' No. 2 Thompson, SE cor. SW SW, Section 12-33-16 got sand at 1,388 feet and at less than 2 feet in made 160 bbls. the first 24 hours. The same operators drilled a dry hole in No. 1 Kuntz, NE cor. Section 14-33-16 at 1,425 feet. J. R. Thompson No. 1 Linscott, NW cor. SE, Section 17-33-16, was dry at 1,519 feet. Charles Blye's test on the Barter farm, SE cor. Section 25-34-14, was dry at 1,875 feet.

Overfield & French are drilling below 1,100 feet in a test on the Fairbond farm, NW cor. SE SE, Section 1-35-16. The Orlando Petroleum Co. has started drilling No. 1 Van Dent, C SE NE, Section 12-35-14. Smith & Thomas have started up on No. 1 Kick, NW cor. Section 3-33-14. Sturnberg and others have spudded in No. 1 Badke, SW cor. NW SW, Section 9-33-16. Wilkins and others' No. 1 Zutz, NE cor. SE SE, Section 11-33-16 was spudded in. Reed & King have commenced drilling No. 1 Remington, NW cor. SW NE, Section 13-33-16. Dunn and others were drilling at 300 feet in No. 1 Clark, NW cor. NE, Section 32-33-16.

Rocky Mountain Area

By F. B. Taylor

CASPER, Wyo., No. 1.—The Dallas and Derby fields south of Lander, Wyo., are becoming active in view of prospective demands for black oil and road building purposes next year. The Burnside Oil Co. completed a 50-bbl. producer on Twin Creek on Section 4and the Derby Dome Wyiming Oil Co. is shipping about 200 bbls. daily to tankagein the Dallas Field and to supply fuel oil for the Chicago & Northwestern Railroad at Lander. The Derby Dome Wyoming Oil Co. found a 25-foot vein of solid asphalt about 1,100 feet below the Embar sand in its test on the south end of the Derby structure and to get this asphalt out it may be found necessary to run steam down the hole.

This field has never tested any of the sands below the Tensleep and has only drilled one well into the Tensleep a short way, finding water. The Amsden sand at its outcrop on the mountains west of the Dallas and Derby operations is a fine, very porous sand and looks like an excellent sand if it should be found oil bearing.

The Derby Field connects with the Dallas Field by a four-inch pipe line and the Dallas has a six-inch line to the loading rack at Wyopo on the railroad. There is an old refinery at Lander that has been idle for several years and another plant at Riverton that has been idle since 1918. By the addition of some asphalt stills, either could be arranged to handle the asphalt oils produced in the Lander area and supply this product for the trade in that region.

Shannon Sand at Teapot

The east side of Teapot Dome is being looked over for a possible Shannon sand development outside the Government reserve lines. Before the erosion took place that cut down to the present surface in Salt Creek and Teapot, the Shannon sand that now forms the escarpment of the Salt Creek Field, was oil bearing and probably held as much crude as the second Wall Creek sand does now. The erosion, however, cut out the upper strata on the structure and the Shannon sand carries oil on the outer edge of the field at one point known as the Shannon Pool, north of the main field. These wells drilled to the Shannon sand here make an excellent grade of oil that has often been used in its crude state as a lubricating oil for autos.

It is considered that other pools of oil may be found around the edge of the Salt Creek Field and Teapot in the Shannon sand and the fault planes that are to be found all around the escarpment of the field would have a tendency to hold this Shannon oil in segregated pools with water at other points on the slope, even higher than the oil deposits. As the Shannon sand is all in place and under the surface in Teapot Dome, the chances are considered better there than up in Salt Creek proper where the sand has been eroded away except around the edge of the field.

The Casper Oil Syndicate's well drilling about 3 miles out of Casper towards the Casper mountains, is at 1,635 feet and still in shale. Contractor Maybon is making good time on this well and the members of the syndicate expect to reach the first Wall Creek sand about 1,800 feet while the second Wall Creek should come in about 400 feet lower.

Big Piney District

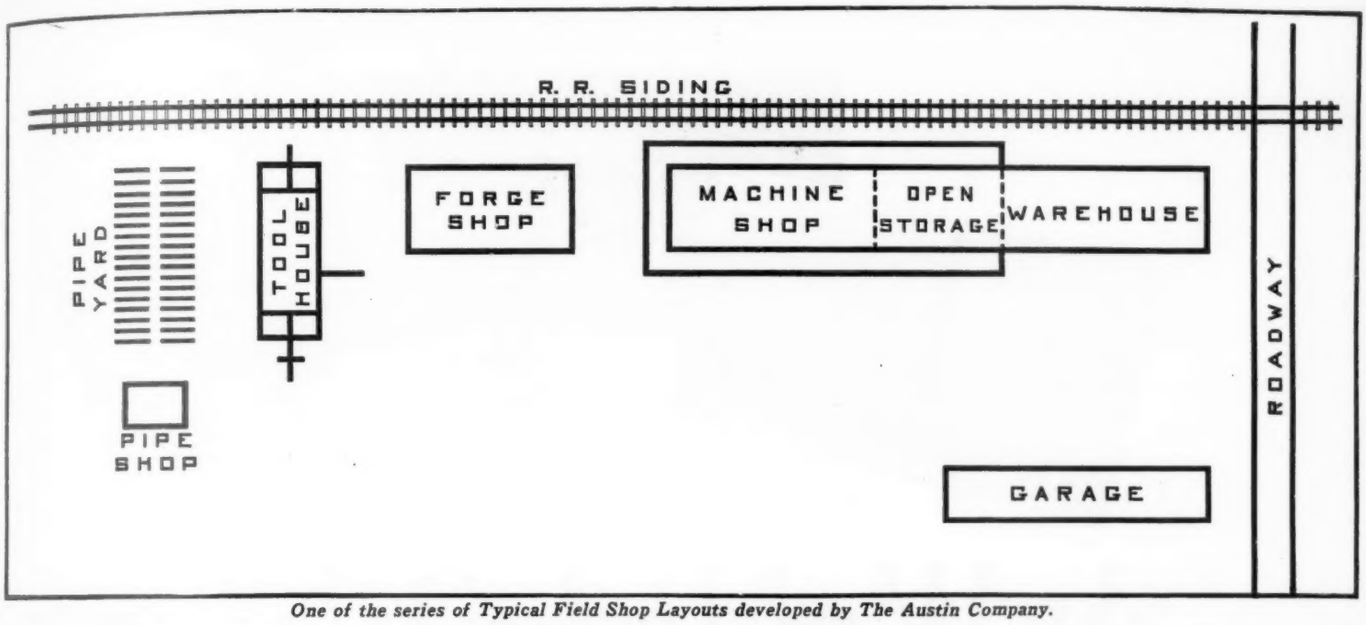
The Transcontinental Oil Co. is reported to about to start active work in the Big Piney district in Lincoln County, Wyoming. Two wells are said to have been contracted for to test the deeper sands of that area and the locations have been made on Section 4 and 22 of Township 26-113. The report could not be confirmed.

The Moffat and Wellington districts in Colorado are expecting completions in the near future. In the Wellington and Fort Collins area the Douglas Lake well of the Union of California should reach the Dakota sand this week and show whether this structure contains petroleum or not. It will be the first dry structure in the Fort Collins area if the Union's well proves a duster.

Helium and Dirigible Plant

Plans under consideration at Washington may develop into the establishment of a lighter-than-air dirigible plant in Utah through the finding of helium supplies there at the Woodside structure in Emery County. The Utah Oil & Refining Co. drilled a well on this structure

(Continued on Page 94)



One of the series of Typical Field Shop Layouts developed by The Austin Company.

A Typical Field Shop Layout

Typical Field Shop Layout for the Standard Oil Co. at Shreveport, La. Austin designed buildings were furnished

Austin Buildings were furnished for this field shop.

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The Gulf Refining Company
The Standard Oil Company of Louisiana
The Gulf Pipe Line Company

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On the work barge. Making the third joint from the bank.

Section of welded line leading from gate house to water's edge.

A Welded Oil Line

First joint at the edge of river bank, showing details of clamp used.

Welding the 40-foot Sections after they had been rolled into trench and aligned.

The field report on this job reads:

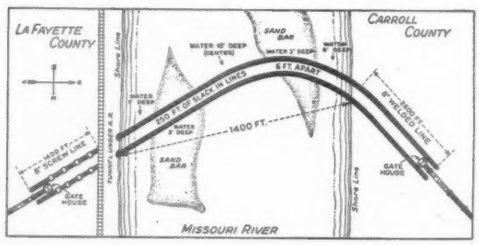
"This crossing is being made with two strings of 8-inch extra strong 'NATIONAL' Pipe, with beveled ends for welding. Welding starting at Gate House on Carrollton side of river, 2,600 feet from water's edge.

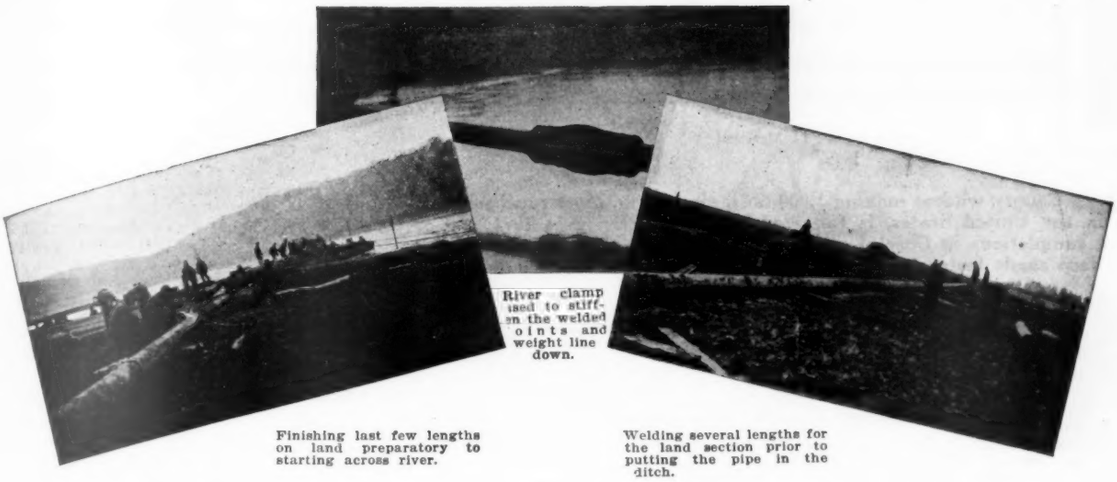
"The river being 1,400 feet wide, the ends of welded lines are connected to 8-inch screw lines, each 1,400 feet long to Gate House in Lafayette County, on opposite side of Missouri River.

"The two welded lines on shore leading to river are buried in a single trench dug 5 feet deep by 9 feet wide. Three joints, averaging 20-foot each, are aligned and trued up at each joint. Joints are then welded and sections dropped into ditch. After 12 to 15 sets of three-joint sections have been welded, they are lined up into one long string, and a bell hole for the welder to work in is dug at each new connection, or every 60 feet. This plan continues until lines reach water's edge.

"River equipment is then brought into use, consisting of a steamboat, large work barge, and derrick barge.

Sketch of Missouri River-Crossing at Carrollton, Mo.





River clamp used to stiffen the welded joints and weight line down.

Finishing last few lengths on land preparatory to starting across river.

Welding several lengths for the land section prior to putting the pipe in the ditch.

# of Unusual Interest

"Two joints are welded together on barge, making an average 40-foot length. Derrick then raises the 40-foot section to an angle of about 40 degrees, and one end is butted against line from shore. A clamp is used to hold section in position for welding.

"After being welded a cast-iron sleeve, or clamp, is bolted over the welded joint. Clamp is 36 inches long by 18 inches wide by 1¾ inches thick. Made half round to fit snug over pipe with 3-inch wide flange on each side. One set of clamps weighs about 700 lbs.

"Clamps are used on every joint and after being bolted up, the line is raised from barge by derrick and barge drawn ahead about 35 feet. String is then lowered down until it rests on barge, when two more lengths that have been welded together are held in position as before."

Clamp used on barge to hold pipe sections in place while welding joints.

It is significant that for submerged lines, as for other difficult installations, "NATIONAL" Pipe is generally used.

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Close-up of welder finishing a weld in a bell hole.

Gulf Coast Oil Operations

By P. L. McGreal

Jim Hogg County wildcat making 1,000 bbls. pinched in, most southerly producer in the United States, is followed by much activity in that section. Twelve completions in Coastal regions, with but 810 bbls. new production. Three deep sands tests abandoned in Orange Pool. Little work in Luling.

HOUSTON, Tex., Nov. 3.—There is little to report in the Gulf Coast pools or the Southwest Fields for the week, other than the wildcat well in Jim Hogg County, mentioned in last week's review. It is Hennie, Winch & Fariss' No. 3 Martinez drilled into 12 feet of fine sand at 2,005 feet and reported with an initial flow of 750 bbls. per day. The well made 1,000 bbls. a day this week, pinched in. It is flowing into earthern storage and is the most southerly producer in the United States. The Texpata Pipe Line Co. has laid a 6-inch line to the well from the Mirando Field in Zapata County, 3½ miles west. The oil will be run to storage on the Tex-Mex Railway. The gravity is between 23 and 24 and the color is green.

The owners have made a location for No. 4 Martinez 300 feet to the north and O. W. Killiam has spudded in No. 1. Other locations have been made across the line in northwestern Zapata County about ½ mile from the flowing well. The Hill-Pierce Co. is drilling No. 1 Martinez in Zapata County and H. J. McMullen has locations for Nos. 1, 2 and 3 Vela. R. K. Bateman's No. 1 in survey No. 617 is around 700 feet. The Mirando Oil Co. reset casing in No. 15 in the old Mirando Pool at 2,030 feet.

In other parts of Jim Hogg County, The Shasta Oil Co.'s No. 1 Holbein ranch is drilling below 2,345 feet. McClannaker's No. 1 Kinkler is around 1,700 feet and the Weber Oil Co. set casing in No. 4 Holberin at 2,780 feet.

The October 30 issue of The Oil and Gas Journal contained a special article on the Webb-Jim Hogg-Zapata counties area by S. C. Lowe, of Houston, consulting geologist.

A total of 12 wells were completed in the Costal region during the week of which four were worked over holes. The new production totals 810 bbls. with five dry holes and four saltwater wells. Four tests were bailing at the close of the week. One of the abandoned holes was the Associated Oil Co.'s No. 1 Perry on the south side of the Stratton Ridge Dome, a partially developed saline elevation in Brazoria County. The depth was 4,367 feet.

Estimated Daily Gross Production

The estimated daily average gross production in the Gulf Coast area for the past week is placed at 86,555 bbls., an increase of 285 bbls. over the estimate for the week previous. The well of the Vacuum Oil Co. in the Lockport, Calcasieu Parish, Louisiana district is credited with an average of 1,100 bbls. of oil. It shows about 40 per cent sediment and water.

The estimated daily average gross for the Southwest fields is placed at 38,955 bbls., a gain of 2,900 bbls. from the figures for the previous week. The increase is due to the Luling Field and the well in Jim Hogg County. The following table gives the estimated daily average for each district:

District—	Gross Bbls.
Batson	1,700
Blue Ridge	720
Barber Hill	140
Big Creek, Fort Bend County	4,000
Dayton	90
Damon Mound	1,300
Edgerly (La.)	525
Goose Creek	12,400
Humble	5,675
Hull	16,900
Jennings (La.)	765
Markham	315
Orange	10,750
Pierce Junction	280
Spindletop	1,175
Saratoga	1,595
Sour Lake	4,300
Vinton (La.)	6,850
West Columbia	15,900
*Miscellaneous	1,275
Total	86,555

*Includes Lockport, La., 1,100 bbls. Nacogdoches, Tex., 110 bbls.; High Island, 45 bbls.; Hockley, 20 bbls.

Southwest Fields	
Luling	30,050
Laredo	4,275
Somerset	2,575
Cantnam	560
Rockdale-Minerva	495
Jim Hogg County wildcat	1,000
Total	38,955
Grand total	125,510
Increase	3,185

Operations in the Pools

Three deep sand tests in the Orange Pool were abandoned, one on the northeast and two on the southeast sides. The Sun Oil Co. quit No. 1 Kato on the northeast at 4,720 feet after vainly trying to make well in showing at various depths. It meant a slight extension of the pool. The same company abandoned No. 5 Brown on the southeast at 3,285 feet, after drilling to around 4,900 feet and pulling back to sidetrack. The Gulf Production Co.'s No. 5 Pevito to the southeast, bailed salt water at 4,600 feet and was abandoned. The American National Oil Co.'s No. 1 Winifree, about 1 mile north and east of production, is bailing at 4,675 feet. The Brownie Babbittee Oil Co.'s No. 4 McLain, deepened to 4,075 feet, will make a pumper. The Edgerly Petroleum Co.'s No. 10 Carbello, completed two weeks ago as a 175-bbl. pumper at 3,350 feet, is now showing 10 per cent sediment and water.

Deep tests still drilling in that pool include the Rycada Petroleum Co.'s No. 1-E, 8 and 14 State Land in Cow Bayou, The first is fishing at 4,965 feet, the second is drilling below 4,700 feet and No. 14 is below 4,900 feet. The Brownie Babbittee is sidetracking No. 3 Brown, after drilling to near 5,000 feet and losing the hole. The Mutual Oil Co.'s No. 3 Chesson on the north side, is deepening at 4,675 feet and No. 7 at 4,235 feet. The Gulf Production Co.'s No. 2 Hammam-Consolidated is at 4,776 feet and its No. 8 Kishi-Lang is sidetracking at 4,655 feet. No. 1 Granger is at 3,355 feet and Nos. 2 Chesson and 8 Pevito are rigging. The Orange Petroleum Co.'s No. 8 Winifree is at 3,376 feet and No. 8 Chesson is around 3,380 feet. On its Winifree lease, the Humble Oil & Refining Co.'s No. 7 is at 3,785 feet and No. 11 at 765 feet. No. 8-B Chesson is around 3,355 feet with a location made for No. 21. The Sun Co.'s No. 2 Bell Isle is deepening.

Hardin County Pools

In the Batson Pool, the Paraffine Oil Co.'s No. BBC is bailing at 900 feet. S. R. Buchanan's No. 79 Milhome is drilling at 1,025 feet and Anderson & Munson's No. 1 Hodges at 2,765 feet. W. B. Flynn's No. 2 Donohoe is at 2.234 feet. The East Batson Oil Co.'s No. 1 Texas is below 700 feet and the Ada Belle Oil Co.'s No. 81 Wise at 1,100 feet.

In the Saratoga Pool, the Rio Bravo Oil Co.'s No. 312-B is pumping 10 bbls. at 1.312 feet. A derrick is up for No. 212-B. The Skinner Oil Co.'s No. 1 Booker is drilling at 465 feet.

In the Sour Lake Pool, J. H. Antillery's No. 2 Rio Bravo is a salt water hole at 1,075 feet. Hankamer & Co.'s No. 1 Fee is bailing at 855 feet.

Jackson and others' No. 3 Trustee is drilling at 455 feet. The Texas Co.'s No. 237 Fee is sidetracking at 1,685 feet. Hankamer & Co. has a location for No. 2 Brown. The Lake View Oil Co.'s No. 4 Miner is at 2,790 feet. The Humble Oil & Refining Co.'s No. 38 Hardin-West is sidetracking at 2,386 feet and the Sun Oil Co.'s No. 60 Bass & Eastman is at 875 feet. F. S. Bowleg's No. 2 Rogers is rigging.

Liberty County Pools

In the Hull Pool, the Republic Production-Houston Oil Co.'s No. 45 Dolbear, a workover, is pumping 250 bbls. at 2,300 feet. The Gulf Production Co.'s No. 6 Thomas was abandoned in salt water at 3,650 feet. The Houston Production Co.'s No. 12 Barngrover is a salt water well at 3,675 feet. It was deepened.

On the north side of the dome, the Gulf Production Co.'s No. 7 Scarborough is fishing and No. 13 is drilling below 3.180 feet. On the northeast, the Gulf Co.'s No. 2 Morris-Phillips is deepening and on the northwest side, the Mecom Oil Co.'s No. 6 is sidetracking at 3,920 feet. On the east side, the Republic Production-Houston Oil Co.'s No. 48 Dolbear is rigging to work over. No. 90 is drilling at 3.886 feet and No. 91 is sidetracking at 2,235 feet. No. 93 is below 3.900 feet and No. 94 at 576. On the southeast, the Gulf Co.'s No. 8 Phoenix is deepening. On the south and southwest sides, the Humble Oil & Refining Co.'s No. 18 Guedry is waiting on a rig. No. 10 Hooks-Spells is at 3,455 feet. The Empire Gas & Fuel Co.'s No. 16 Barngrover is drilling at 1,765 feet. On the west side, the Humble Oil & Refining Co.'s No. 1 Hannah is sidetracking at 3,480 feet and No. 1-B Hannah is drilling at 2,724 feet.

Harris County Pools

In the Goose Creek district, the Gulf Production Co.'s No. 22 Wright is a 50-bbl. pumper at 1.575 feet. The Humble Oil & Refining Co.'s No. 5 Jones in the bay waters is bailing at 2,775 feet, after being worked over. An electrically operated rig was used.

On the east side, the Humble Oil & Refining Co.'s No. 59 Smith is at 3,980 feet and No. 60 at 786 feet. No. 1 Tabb is rigging to deepen. The Gulf Production Co.'s No. 4 Hirsch in the bay is at 3,900 feet. No. 8 Chapman-Bryan is at 3,100 feet. On the mainland, its No. 6 Wright is a derrick with No. 21 drilling at 1,610 feet. No. 24 Smith is at 1,235 feet. Rigs are in for Nos. 2 Tabb and 12 Paddock. The Sun Oil Co.'s No. 2 Bartlett-Smith is sidetracking at 2,035 feet. The Gulf Coast-United Central Co.'s joint No. 40 Galliard is a derrick. The Southern Exploration Co.'s No. 8 Wright is sidetracking at 1,708 feet. F. B. West's No. 5 Wright is at 545 feet. The Copeland Oil Co. is pulling strainer from No. 5 Bryan to drill it deeper from 3,225 feet. The Howard Oil Co.'s No. 4 Bryan is shut down at 4,390 feet. The Inca Petroleum Co. has a derrick up for No. 2 Duke. The Higgen Petroleum Co.'s No. 2 Bush, northwest of production, is drilling below 3,915 feet.

In the Humble Pool, Dr. P. S. Griffith has started No. 1 Burt and S. A. Wood No. 2 Conaway, John Deering's No. 2 Bissonett is shut down.

At Pierce Junction, Snowden & McSweeney's No. 8 Cain is drilling at 3,200 feet. The Gulf Production Co.'s No. 10 Taylor is deepening at 3,886 feet. H. R. Cullen's No. 1 Howe is drilling at 870 feet.

Brazoria County Pools

At Damon Mound, Hamm & Co.'s No. 1 Bryan is at 1,295 feet. It is an old hole being worked over.

The Humble Oil & Refining Co.'s No. 5 Coon in the West Columbia Pool is working over. No. 6 Coon, reported last week as a 200-bbl. pumper after working over, is now pumping 75 bbls.

Fort Bend County Pools

In the Blue Ridge Pool, the Gulf Production Co.'s No. 1 Invincible on the southwest side is drilling around 3,915 feet. The Texas Co.'s No. 12 Robinson on the northwest side, is deepening.

At Big Creek, the Gulf Production, Snowden & McSweeney's joint No. 18 Davis is drilling at 1,234 feet. No. 9 Davis is deepening at 2,910 feet. Same interests No. 8 Wheat is drilling at 650 feet. The Texas Co. has started No. 1 Fee 300 acres and Rich and others have a derrick for No. 2 Ahlers.

Other Pools

In the Markham Pool, the Rycade Petroleum Co.'s No. 2 Myers is pumping 150 bbls. after a workover at 3,300 feet. Same company is drilling No. 1 Gray at 3,628 feet and No. 1 Sisk at 3,672 feet with No. 3 Hudson at 2,024 feet.

In the Spindletop Pool, W. T. Wherry's No. 1 Trembly is at 860 feet and Wilson and Broach's No. 11 Fort Worth, is at 875 feet. The Gulf Production Co.'s No. 205 Gladys is pumping 125 bbls. at 900 feet. The Rycade Petroleum Corp.'s deep test in No. 1 Gladys is at 3,720 feet.

South Louisiana Pools

In the Jennings Pool, Green & Sutton's No. 1 J. F. S. will make a pumper at 1,620 feet.

The Coastal Fuel Oil Co.'s No. 69 Fee is deepening at 1,725 feet. The Texas Co.'s No. 49 Latrielle is sidetracking at 1,660 feet and the Gulf Refining Co.'s No. 37 Jennings-Clement is drilling below 1,900 feet.

In the Edgerly Pool, G. W. Gray's No. 13 Lilliard is at 2,235 feet.

In the Vinton Pool, the Just Oil & Refining Co.'s No. 1 Weeks is drilling at 1,850 feet. The Edgerly Petroleum Co.'s No. 2 Lizzie is at 1,875 feet and No. 1 Vincent is below 3,080 feet. Marrs McLean's No. 5 Gray is deepening at 3,335 feet. Wilson & Broach's No. 6 Parks is rigged to drill deeper. The Vinton Petroleum Co.'s No. 13 Vincent is at 2,235 feet and No. 14 is around 2,310 feet. The Texas Co.'s No. 1-A Gray is drilling at 3,340 feet with No. 26 Gray sidetracking at 975 feet. The Gulf Refining Co.'s No. 33 Star is drilling at 2,220 feet, after setting casing at 2,200 feet. No. 37 Vincent is drilling around 2,255 feet.

In the Lockport district, Calcasieu Parish, the Vacuum Oil Co.'s No. 1 Gray is taking a core of the formation at 4,500 feet. It does not look promising for a well. The Vacuum Co.'s producer there got the sand at 3,875 feet, coming in September 8 last, flowing 3,000 bbls. The Vacuum Co.'s No. 1 Bordagee is at 3,174 feet. No. 1 Farquhar is rigging. The Marland Oil & Refining Co. is starting 1 mile south of the producer.

Undeveloped Saline Domes

At High Island Dome in Galveston County, the Sun Oil Co.'s No. 7 Cade is at 5,280 feet and No. 1-C Cade is around 4,900 feet and shut down. Same company is starting a shallow test in No. 1 Lockhart, drilling with a gasoline rig. The Gulf Production Co. has started No. 2 Smith on the south side of the dome toward the Gulf of Mexico. In the shallow sand section, where some small wells have been pumping for some time, J. T. Flinn & Co. has a derrick up for No. 1 Teek. The Carter-Cox Oil Co. is drilling No. 9 Carter at 101 feet. Flinn & Co.'s No. 2 Great Western is at 190 feet. The Meynig Oil Co. is drilling No. 2 Meynig.

(Continued on Page 110)

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ATHEY TRUSSWHEEL WAGON

IT BRIDGES THE SOFT SPOTS

California Field Operations

By L. P. Stockman

Further decreases expected in Santa Fe Springs, Torrance, Huntington Beach and Long Beach. Rosecrans not to increase much but Dominguez may reach 50,000 bbls. by end of year. Huntington Beach has larger percentage of flowing wells than either Santa Fe Springs or Long Beach.

LOS ANGELES, Cal., Nov. 1.—Daily crude production having fallen below the 600,000-bbl. mark for the first time since February 1923, indication point to a still further decline. Decreases in production are expected at Santa Fe Springs, Torrance, Huntington Beach and Long Beach and, while only the latter is expected to show any very great change, they should all be down from their present register. Dominguez and Rosecrans, on the other hand, are expected to register increases. The latter will probably not show any great change but the former is on the increase and may reach 50,000 bbls. a day by the close of the present year.

Rosecrans

There were no developments of unusual importance in the Rosecrans Field during the week, since the only well, J. B. Dabney's No. 1 Athens, which might have proved interesting, tested wet. Dabney's well, which is north and east of the Union's No. 1 Howard Park, is being watched very closely, since it will extend the field about one-half mile to the north. Should Dabney eventually secure a satisfactory production, several new holes will undoubtedly be started. A good core was secured previous to the cement job at 5,206 feet and it is quite possible that Dabney will secure production after effecting a satisfactory water shut off. The Marine is making splendid progress with its No. 31 Athens, midway between Dabney's test and the Union's producer, No. 1 Howard Park, and reports 3,100 feet of hole. E. J. Miley, the Julian Petroleum, Fullerton Oil Co. and Petroleum Midway all have acreage near the Dabney and Marine wells. The Petroleum Midway, Shell and Pan American are drilling further north and, although neither has yet picked up the oil sand, they are being watched with interest.

The Pan American is going ahead in No. 1 Anderson at 3,920 feet, while the Petroleum Midway shows 3,391 feet of hole in No. 1 Ducommon. The Shell is coring ahead carefully at 4,010 feet in No. 1 Leonis. The Barnsdall is cleaning out No. 1 O'Dea, following its sanding up and may deepen it. With the General Petroleum Co.'s No. 1 Amestoy at 5,709 feet and the Union's No. 1 Trust at 5,435 feet, the outlook for production in the western part of the field is not very encouraging. In the southern part of the district, the Union's No. 1 Gordon is still dry at 4,910 feet. In the north, the Standard has reached 4,902 feet in No. 1 Cowan without picking up anything of particular importance. This well is at present in an extremely hard formation and, while it cannot yet be classified as doubtful, it is not the least bit encouraging. Water broke in on the General Petroleum's No. 1 Vaughn in the north central part of the field and the well has been killed and recemented. The U. S. Royalties, south of the present producing area in the southern part of the field, is also experiencing water trouble and will recement within the next day or two. The Union Oil Co., the largest individual operator in the field, is making good footage in practically all of its holes and should finish at least one well within the next two weeks.

Dominguez

Production at Dominguez has been steadily climbing for some time and a further constant gain is anticipated during the next few months, as the result of the operations of the Associated, Marland and Shell Oil companies. The Birch Oil Co.'s No. 1 Humphries, in the extreme western part, is still dry at 5,200 feet. It is the intention of the company to make a deep test, unless mechanical trouble develops, before pulling out. The General Petroleum has gone back into No. 2 Gardena, which was suspended at 5,000 feet, and will attempt to secure production. The Marland has cemented No. 2 Dominguez at 4,095 feet and this well, together with No. 3 at 3,926 feet and No. 4 at 3,678 feet, look like early completions. The Shell's deep test, No. 1 Hellman, in the northern part of the field, is drilling in a brown shale at 5,452 feet and, while there have been several small showings of late, none warranted a test. No. 2 Childs, in the northeastern part of the field, is standing cemented at 4,033 feet. Recent developments in the southern part of the field have resulted in the resumption of drilling by the Fresno Petroleum Co. and the hole, now at 4,900 feet, will be deepened several hundred feet in the hope of picking up the pay. The well, however, is a rank wildcat with only a small chance of securing commercial production.

Torrance

The Standard, with three new wells to its credit, headed the completion list at Torrance, followed by the Chanslor-Canfield Midway Oil Co. with two and the Fullerton and Petroleum Midway with one each. The two best wells finished during the week were on the Standard's Sentinel-Joughin lease, both of which came in under a natural flow. No. 12 was good for 520 bbls. of clean 21.3 gravity oil, while No. 16 made 501 bbls. of clean 19.8 gravity oil. The former was drilled to 3,820 feet and finished with a 6¼-inch oil string carrying 286 feet of 60 mesh screen, while the latter was completed at 5,838 feet and finished with a 6¼-inch oil string carrying 294 feet of 60 mesh screen. The company's No. 2 Potter Community pumped 135 bbls. of 15.1 gravity oil, which cut 20 per cent. It was brought in from 3,650 feet after being finished with a 6¼-inch oil string carrying 668 feet of 60 mesh screen. The Standard's next completions, judging by present well depths, should be Nos. 21 and 22 on the Marble Fee property and No. 11 on the Dominguez lease.

The Chanslor-Canfield's two new producers were both located on the Del Amo lease, No. 20, drilled to 3,655 feet and finished with an 8¼-inch oil string, pumped 150 bbls. of 17.9 gravity oil which cut 20 per cent. No. 21 pumped 170 bbls. of 18.1 gravity oil, which cut 2 per cent, from 3,650 feet. No. 30 Del Amo, now at 3,655 feet, looks like the company's next successful producer. The Chanslor-Canfield's No. 1 Francis, a deep test at 5,560 feet, is getting quite deep.

Closes Its Development

The Fullerton Oil Co. closed its development work at Torrance with a 250-bbl. well, when No. 7 Cotton was put on production. It was drilled to 3,810 feet and finished with a 6¼-inch oil string carrying 584 feet of shop perforated. The oil tests 21.9 degrees and shows a cut of a little more than 6 per cent. The Fullerton's 17 wells in this field are producing a little better than 2,000 bbls. a day, an average of 118 bbls. each. The Petroleum Midway drilled No. 5 Carlson to 3,800 feet but only secured a 40-bbl. pumper, the oil testing 17.1 degrees and showing a cut of 15 per cent. The well was finished with a 6¼-inch oil string carrying 315 feet of 60 mesh screen and 3,490 feet of 2½-inch tubing. The Shell's deep test, No. 2 Kettler, is drilling ahead in a hard sandy shale at 4,980 feet. So far this hole has shown no indications of resulting in production.

Another deep test, the Lora J. Oil Co.'s No. 1 Torrance, has also proved disappointing, although it is only at 4,130 feet and has several hundred feet to go. The next completion list will undoubtedly include the Sentinel Oil Co.'s No. 14 Joughin and the Superior Oil Co.'s No. 37 Torrance, both being connected up with the run tanks. The General Petroleum has mapped out a big drilling program for its Poggi lease and has staked seven locations of the twenty mapped. This property is proven up for production and, although only one hole is being put down at present, additional work will be started in the near future. The Petroleum Securities should finish two completions on its Kleinmeyer Lease A during the coming week, No. 16, now at 3,860 feet, and No. 17 at 3,856 feet.

As the result of the completion of only two small wells and the sanding up of five big producers, the Long Beach Field registered a large decline in production during the past week. It was one of the largest weekly drops recorded in several months and, although it is a little early to say that this is the forerunner of a big future drop, conditions point in that direction. Drilling is down to a minimum and it may be possible the field will begin to show a much larger decrease each week. The net loss during the past seven days was approximately 5,000 bbls., whereas the average for the past month or so has been between 1,000 and 2,000 bbls. each week. The number of flowing wells is gradually getting smaller, while the number of pumpers is showing an almost identical increase. Of the 500 producing wells at present, 190 are flowing. These wells hold the key to Long Beach's immediate future production and if any great number should cease flowing and enter the pumping class, the drop in their production would automatically be reflected in a decline for the field.

The two wells finished during the week are both rather unsatisfactory because of the large amount of water present in each. E. M. Nutting's No. 1 Lough, a 150-bbl. pumper, registered a cut of 10 per cent, while the Shell's No. 21 Alamitos cut approximately 20 per cent. No. 1 Lough was drilled to 4,624 feet and finished with a 6¼-inch liner carrying 280 feet of 40-mesh screen landed on bottom. With the exception of the liner, the only casing used in this well was 4,225 feet of 8¼-inch, a rather unusual condition. No. 21 Alamitos, drilled to 4,275 feet, required 1,015 feet of 16-inch, 4,070 feet of 10-inch and 210 feet of liner, 175 feet of which was 60-mesh screen. No. 6 Coseboom is causing the Shell some little trouble and, since it has consistently refused to flow, it will probably be put on the beam during the coming week. W. R. Ramey's No. 1 McNaughton, a deep test in the east side is drilling in a sticky shale at 5,050 feet.

Huntington Beach

The consistent and steady production of the Long Beach Field has often been the subject of discussion, since it has defied all efforts to estimate the field's output a few months in advance. This, one of the preeminent characteristics of the Long Beach Field, is also peculiar to Huntington Beach. The latter field, of course, does not have as productive sands to draw from but those present are fairly consistent. Huntington Beach was never as prolific a field as Long Beach, nor has its aggregate production been as great, but a check just made of conditions prevailing in the field at present shows that Huntington Beach has a larger percentage of flowing wells than either Santa Fe Springs or Long Beach. There are 300 producers at Huntington, 175 of which are flowing. At Santa Fe Springs there are only 60 flowing wells, the balance being pumpers or requiring artificial stimulation. There were no new wells added at Huntington and a casual glance at the drilling list does not show any prospective producers for the coming week. The Petroleum Midway cleaned out No. 1 Barker, which was finished at 2,530 feet and, although it pumps 132 bbls. of fluid, 30 per cent of it is water. The Standard has resumed work on No. 2 Surf, suspended at 4,430 feet and is redrilling with cable tools. Water trouble prevented a completion at Santa Fe Springs, when the Petroleum Midway's well Twin Two on Mattern lease No. 2 was put on a production test. The well, drilled to 3,888 feet and finished in the Bell zone, started off at the rate of 2,200 bbls. daily, but after flowing for 16 hours water broke in and another cement job will be necessary.

Miscellaneous Drilling

The McGinley Oil Co. finished No. 16 at Montebello early in the week and secured a 132-bbl. well pumping 23.8 gravity oil from 3,500 feet. Developments at Rideout Heights were somewhat disappointing and conditions are not as bright as a few months ago. The Standard has passed the 4,900-foot level in No. 1 Patton, while the Petroleum Midway is going ahead in No. 1 Hamberg at 4,611 feet. A

(Continued on Page 100)

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Following is a list of tankers, date departed, destination, kind of cargo and amount in barrels:

Wm. Rockefeller, October 20, New York, crude	140,961
W. S. Rheem, October 20, Baltimore, crude	92,127
Walter Jennings, October 21, New York, crude	120,152
F. Q. Barstow, October 21, New York, crude	117,940
J. C. Donnell, October 21, Philadelphia, crude	105,182
District of Columbia, October 22, New York, crude	75,452
Byron D. Benson, October 24, New York, crude	85,974
Japan Arrow, October 26, New York, crude	85,634
Coastwise	
Mericos H. Whittier, October 20, Avon, crude	76,111
W. S. Miller, October 20, Richmond, crude	75,710
J. A. Moffett, October 21, Willbridge, fuel	64,031
Cathwood, October 21, Vancouver, crude	72,940
La Purisima, October 21, San Diego, refined	37,166
Alden Anderson, October 22, Avon, crude	66,741
Utacarbon, October 22, Martinez, crude	73,450
D. G. Scofield, October 23, Richmond, crude	78,735
La Purisima, October 24, Seattle, crude	38,971
W. S. Miller, October 24, Richmond, crude	73,514
R. J. Hanna, October 26, Point Wells, fuel	77,613
Los Angeles, October 26, Oleum, crude	75,349
Mericos H. Whittier, October 26, Avon, crude	76,190
Exports	
Pearl Shell, October 23, China, refined	60,431
Zeppot (Dan.), October 24, Buenos Aires, fuel	117,087
S. C. T. Dodd, October 24, Hilo, fuel	78,912
La Brea, October 24, Holland, refined	70,290
From San Francisco	
Kewanee, October 21, Los Angeles, refined	28,760

FOR CLASSY SERVICE
TONGS
TUBING CATCHERS
ELEVATORS
FOR ALL PURPOSES
it must be DUNN

DUNN TOOLAGRAM

ORIGINAL
PRACTICAL
ECONOMICAL

Why the DUNN *Safety* Elevator *cannot* drop the string

Figure 2 shows the cam (f) in the door hinge, which, together with the beveled interlocking members of the body and door, may be likened to a screw pitch, this action being carried out from the hinge pin. This is the position of the door and hinge as the elevator is placed on the pipe.

Fig. 2

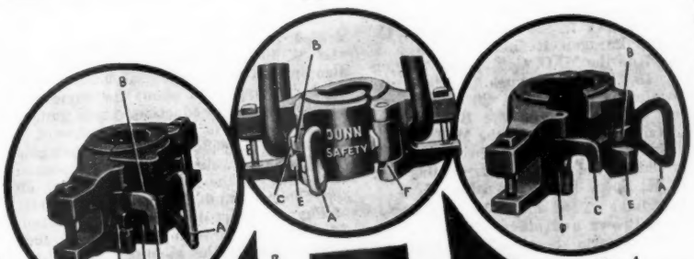

Fig. 3 Fig. 4

When in this position, as the string is lowered, the pipe collar comes to rest upon a sufficient area of the door to force it downward on the cam, (see f, figure 1), automatically and completely closing it, and positively locking the latch. The door cannot then be opened until relieved of the weight of the string. In this manner the latch proper is relieved of the major part of the responsibility for safety, and is free to be developed for maximum speed in operation.

Fig. 1

Figure 3 is another view of the elevator in closed position, as on pipe, showing the interlocking members of the door and latch, which cannot fly open or be tripped, even though the door could swing back under the weight of the pipe.

Note carefully the beveled, interlocking members of the door, latch, and door hinge, in figure one. When the pipe collar or coupling is resting on the complete circumference of the door, with the latch, door hinge and elevator body interlocked in this position, nothing except a force sufficient to lift the entire string can open the elevator door and release the pipe.

What does it mean to you that this Dunn Safety Elevator is so designed and built that its use completely removes all danger, and fear, of dropping the string through any fault of the elevator?

it hadta' be DUNN

Dunn Mfg. Co.
Oxnard, California

1122

OIL WELL PATENTED DUNN TOOLS
TRADE MARK REG.

further constant gain is anticipated dur-

Kewanee, October 21, Los Angeles, refined 28,760

(Continued on Page 100)

Fields of the Central West

By Whit

L. W. Morgan gets 35-bbl. well in Shelby County, Ohio; E. A. Kuhn and others, 50-bbl. producer in Mercer County; and Baker Brothers 40 bbls. in Wayne County. American Engineering Co. gets 50-bbl. well in Jay County, Indiana, and George D. Roberts 75 bbls. in Delaware County.

FINDLAY, Ohio, Nov. 3.—The usual number of completions are reported from the old Lima Field of northwestern Ohio for the week. The most important completion was made far south of the old field, in Van Buren Township, Shelby County, where L. W. Morgan drilled in No. 2, located 600 feet from the north line and 1,050 feet from the west line of the L. Ruesse farm, in the southwest quarter of Section 18, with a flush of 35 bbls. The finding of this well should encourage further operations in the vicinity, for wells of that caliber are a scarcity in the Trenton Rock sands at this time.

In Hopewell Township, Mercer County, E. A. Kuhns and others some time ago drilled in a test on the C. C. Rocketts farm, Section 1, but the well was never put on the pump and has been abandoned. No. 2 was started on a location 1,120 feet from the north line and 320 feet from the west line of the same farm, and when the drill reached a depth of 1,290 feet, the well showed a production of 50 bbls. the first 24 hours. In the same township, Callahan & Mavhugh abandoned No. 1 on the C. T. Brown farm, Section 27, and J. A. Metzger is drilling his second test on the S. Fetters, Section 20.

In Butler Township, Mercer County, Gillespie and others drilled a dry hole in a test on the A. Able farm, Section 7, 750 feet from the north line and 250 feet from the east line of the lease. Top of Trenton was found at 1,117 feet and drilled 33 feet in to a total depth of 1,150 feet. Lacknett and others met with the same luck in their test on the northeast corner of the J. Haubert, Section 31, where the top of the Trenton was hit at 1,119 feet, and drilled 29 feet in to a depth of 1,148 feet. Deffenbaugh and others' No. 4 on the southeast corner of the A. Able farm, Section 31, struck top of Trenton at 1,117 feet and at a depth of 1,142 feet, found a 5-bbl. pay. Some parties are drilling No. 1 on the J. W. Bennett farm, Section 13, and O. J. McGuigan and others are drilling No. 1 H. Pummell farm, Section 23.

In Granville Township, Mercer County, Shirill & Co.'s test on the southwest corner of the W. Post farm, Section 29, pumped 2 bbls. from a depth of from 1,163 to 1,203 feet. In Center Township, E. A. Kuhns and others abandoned No. 3 Jacob Didrick farm, Section 8. In Union Township, same county, the Watson Oil Co. abandoned No. 6 Mary Hattery, Section 11, and No. 3 C. Griffin farm, Section 12. In Recovery Township, the Pennhoma Oil Co. is drilling a test on the B. Dues farm, Section 1. In Gibson Township, E. G. and James Henderson are drilling No. 3 Joseph Schmiditz, Section 36. The Pittsburgh Oil Co. is drilling a test on the H. Lechner, Section 18, and the Delta Oil Co. is drilling No. 2 L. Rummell, Section 31, and No. 1 A. Miller, Section 30.

Wood County

In Plain Township, Wood County, Barkley Perry's second well on the F. and H. Burkhalter farm, Section 29, pumped 8 bbls. from 1,400 feet, and Virginia Perry is drilling a test on the R. N. Green farm, Section 28, same township. In Freedom Township, J. Edward Matzinger is drilling No. 6 on the Bryant Brockover farm, Section 26. In Henry Township, Agnetta D. Chidester is drilling No. 13 on her own farm, Section 3.

In Liberty Township, Wood County, Schiedt, Hamann & Huston's second test on the southeast corner of the C. T. Lee, Section 4, pumped 2 bbls. from a depth of 1,307 feet. Huffman & Haas abandoned No. 6 on the Delia M. Roberts, Section 17, and the Avery Oil Co. did the same with No. 3 on the Ettie M. Avery farm, Section 7. The Ray Oil Co. is drilling No. 10, Sam Croker farm, Section 10, and Hulse & Koontz are starting a second well on the D. W. Levers, Section 4.

In Portage Township, Wood County, the Wayne Oil Co. abandoned No. 6 well on the C. L. Sine farm, Section 18, and the Paragon Refining Co. its Nos. 1 and 7 on the M. D. Coffinberry, Section 19. In Bloom Township, Clark A. Browning is drilling No. 20 on his own farm, Section 29, and the Brennen Oil Co. is drilling No. 24 on the M. L. Donahay farm, Section 30. In Middleton Township, Fred H. Speck is drilling No. 4 F. H. Speck farm, Township 17.

In Lake Township, Wood County, Keiser, Brown and others' No. 5 on the Ed Young farm, Section 26, is reported around 3 bbls. No. 8, same farm, is drilling and Lantz, Gregg and Schulte are working at No. 6 Henry Schulte, Section 35. In Troy Township, the Modern Oil Co. is drilling a test on the Anna Hartman farm, Section 26.

In Perrysburg Township, Wood County, Malvern Good's No. 3 on the Merlin Speck farm, Section 32, produced 5 bbls. Top of Trenton at 1,226 feet and 50 feet in to a total depth of 1,276 feet. Davis & Carroll have a rig in for No. 3 on the O. B. Spilker, Section 33.

In Portage Township, Hancock County, the Verschalitz Oil Co. is drilling No. 1 on the B. Twining, Section 32.

In Spencer Township, Allen County, W. W. Rocks is drilling a second test on the Anna Youngpeter farm, Section 23, and the South Fork Oil Co. is drilling No. 3 Mary E. Gross farm, Section 27. In Bath Township, G. A. Peavey and others are drilling No. 11 on the Elias Lewis farm, Section 10, and Frederick Reeder, Jr., has abandoned No. 4 on the Dan A. Bresler farm, Section 26.

New Pool in Auglaize

The new pool recently opened in Moulton Township, Auglaize County, has attracted considerable attention since the bringing in of the 100-bbl. well by E. E. White on the Julian farm, Section 34, and just west from Wapakonetta. There are now five strings of tools working in the immediate vicinity. E. E. White is drilling his second well on the J. R. Julian. W. B. Jack is drilling No. 1 A. E. Long farm; Cliff Blair and others are doing the same with their initial test on the John Tester farm, and the Neely-Clover Co. is drilling No. 1 J. Rapp farm, while Young and Geselchen are drilling No. 3 W. E. Cook farm. In Noble Township, same county, Charles Mertz's No. 7 Francis J. Roby farm, Section 27, is reported at 5 bbls., while the Ohio Oil Co. abandoned Nos. 4, 5 and 7 Pool heirs farm, Section 17.

In York Township, Van Wert County, W. H. Young and others' No. 2 E. R. Jones farm, Section 21, pumped 20 bbls., and No. 2 A. J. Haigh farm, is drilling for the same people.

In Oregon Township, Lucas County, wells Nos. 2, 3, 4 and 5 of the Paragon Co., on the J. H. Driftmyer farm, Section 23, were abandoned.

In Clay Township, Ottawa County, just north of Genoa, the Reynolds Oil Co.'s No. 1 on the southwest corner of the Ross Reynolds farm, Section 13, better known as the Dolph farm, pumped 9 bbls. In the Elmore Field, in Harris Township, same county, the Zorn-Hornung Oil Co. is drilling No. 12 Ed W. Yeasting farm, Section 17.

Gas in Payne Field?

It looks very much as though some gas worth while is to be found in the Payne Field, of Paulding County, as the well drilled in by Robinson & Mendell on the William Wood farm, Section 17, Benton Township, about 3 miles southwest of Payne and about the same distance from oil production, when gauged by the Lima Gas Co. recently showed a volume of 1,890,860 feet. The bringing in of a 30-bbl. flush well in the second test made by the Aetna Drilling Co., on the Thomas Lamb farm, north and west of Payne a short distance, and in Section 34 Harrison Township, has encouraged leaseholders in the vicinity. This company is drilling No. 3 on the same farm, which contains something like 260 acres. This means that there is a possibility of the connection of the wells on the Lamb farm, with those to the west in what is known as the Payne Pool in Section 33, Harrison Township, and Section 4 Benton Township.

In Benton Township, Paulding County, W. J. Wharton and others are drilling No. 1 on the Alonzo Thompson 118-acre farm, in Section 36, and 6 miles south and over 1 mile east of Payne. This is purely a wildcat and the finding of oil will be a big thing for Paulding County, as the location appears an ideal one. This firm is making ready to start a test on the Lamb farm, same section, south and east of the Thompson farm. Harmon and others of Mansfield are drilling a test on the Jacob Stabler farm, in Section 3, and just a short distance southwest of Payne, D. N. Lipps is drilling a test on the Otto L. and E. A. Lents 20 acres in the north half of the southwest quarter of the northwest quarter of Section 9, and about 2 miles southwest of Payne and over 1 mile south and ½ mile west of the producing wells on the Houser and King farms.

In Paulding Township, Paulding County, Blackburn Brothers are drilling a test on the Gilbert Barnes estate of 200 acres, in the south part of Section 14, about 1 mile southwest of the well known town of Paulding. W. E. Hawk and others, well known Central Ohio operators, are putting down a test on the W. D. Graham farm, Section 24, about 2 miles south of Paulding.

In Brown Township, Paulding County, Roger L. Dill and others' No. 1, located 500 feet from the south line and 200 feet from the east line of the Ernest E. Johnson farm, in the southeast quarter of Section 30, pumped 15 bbls. after shot from the Trenton at a total depth of 1,436 feet.

Old Wells Pulled

The National Supply Co. has started pulling of some of the wells recently purchased from the Paragon Co., though Mack P. Colt, Sandusky County, gets the largest number of abandoned ones out of the 700 wells purchased. In Jackson Township, of this county, Nos. 1, 2, 3, 4 6 and 10 H. Byers farm, Section 2 and Nos. 1 and 2 W. O. Doll farm, Section 11. In Sandusky Township, Nos. 1, 2, 3 and 4 Thomas J. Taylor farm, Section 12, were pulled out. In Scott Township, Nos. 1, 2 and 3 D. S. Lee farm, Section 32; No. 3 R. Zimmerman farm, Section 34; Nos. 1 and 2 J. W. Zimmerman, Section 34; Nos. 1, 2 and 3 Louisa Keiser, Section 27; Nos. 5, 6 and 7 H. H. Michael, same section; No. 1 George F. Zimmerman and No. 1 John L. Lehman, same section. In Woodville Township, were Nos. 2, 3, 4, 5 and 6 E. Schmoldt farm; Section 35; Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14 Sarah Myerholtz farm, same section; Nos. 4, 6 and 7 H. F. Klausing, Section 2; Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11 John Wilkey farm Section 34.

In Scott Township, Sandusky County, John M. Sherman and others abandoned Nos. 12 and 13 Sherman farm, Section 9, and the Oden Oil Co. and others pulled out No. 1 on the Kline & Ernest farm, Section 8. In Rice Township, same county, Walters & Simpson abandoned O. Cornicomb and No. 1 Michael Wolfe, both in Section 4.

Indiana Field

In the old Trenton Rock area of the Indiana Field some fairly good wells are reported completed. In Penn Township, Jay County, a short distance west of Balbec, the American Engineering Co. is reported to have drilled in its No. 2 on the C. C. Harris farm, Section 16, with a flush of 50 bbls., while the same company's No. 1 on the L. D. Edmundson farm, Section 22, and southwest of Balbec, was a duster. The Amber Oil Producing Co. is drilling a test on the N. Thomas farm, Section 21, same township.

In Pike Township, Jay County, in the Hotmire Pool, the Omar Oil & Gas Co.'s No. 10 on the M. Mott farm, Section 10, is reported as a 2-bbl. pumper. In Bear Creek Township, Mesel & Spencer's No. 3 on the James Jeffries farm, Section 21, is a 5-bbl. pumper, with No. 4 drilling. In Jackson Township, same county, D. L. Thompson and others are working on a wildcat well on the B. Bronson farm, Section 8.

In Hartford Township, Adams County, Mason and others' second test on the M. L. Sours farm, Section 16, is credited with a production of 3 bbls. In Wabash Township, same county, W. J. Hetter is drilling No. 4 J. H. Barr farm, Section 28, and D. L. Thompson is drilling a test on the John Kelley farm, Section 21.

The sensation of the week was the well drilled by George D. Roberts in No. 5 on the J. Cline farm, Section 24, Liberty Township, Delaware County, in the Muncie district, with a flush of 75 bbls. from the deep pay down in the Trenton. In Delaware Township, the DeSoto Oil Syndicate is drilling No. 9 on the J. W. Goings farm, Section 16.

In Jefferson Township, Grant County, Jacob Wides drilled a 5-bbl. well in No. 1 on the A. D. Mittank farm, Section 29. Scott & Shisler, receivers, are drilling No. 2 William Troyer farm, Section 5, Pleasants Township, same county.

In Green Township, Randolph County, T. O. Tharp has a rig in for a second well on the W. Cline farm, Section 20.

Southwestern Indiana

In Logan Township, Pike County, in southwestern Indiana, the Good Luck Oil Co.'s No. 4 on the Enos Loveless farm, Section 23, pumped 12 bbls. from a depth of from 1,308 to 1,329 feet. The Noble-Bolyard Oil Co. is drilling No. 9 D. S. Huey farm, Section 27.

In Barton Township, Gibson County, Nelson Brothers are working on a wildcat well on th H. Raiborn farm, Section 8, and in Union Township, same county, J. H. Young and others are drilling a wildcat on the Thomas Compton farm, Section 1. In Center Township, same county, Tichenour & Edmonds are drilling No. 2 W. Steiner farm. Murphy Oil Co. is drilling No. 1 Sam Massey farm, Section 32, but has been shut down for

(Continued on Page 78)

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The Kay is a cleanly-built, upstanding brass valve of the double disc type with parallel seats. It is conservatively rated for 125 lbs. steam pressure.
In the Kay both discs are completely free from their seats when the valve is being opened or closed. Its rising stem permits a close and accurate adjustment of flow for many purposes.
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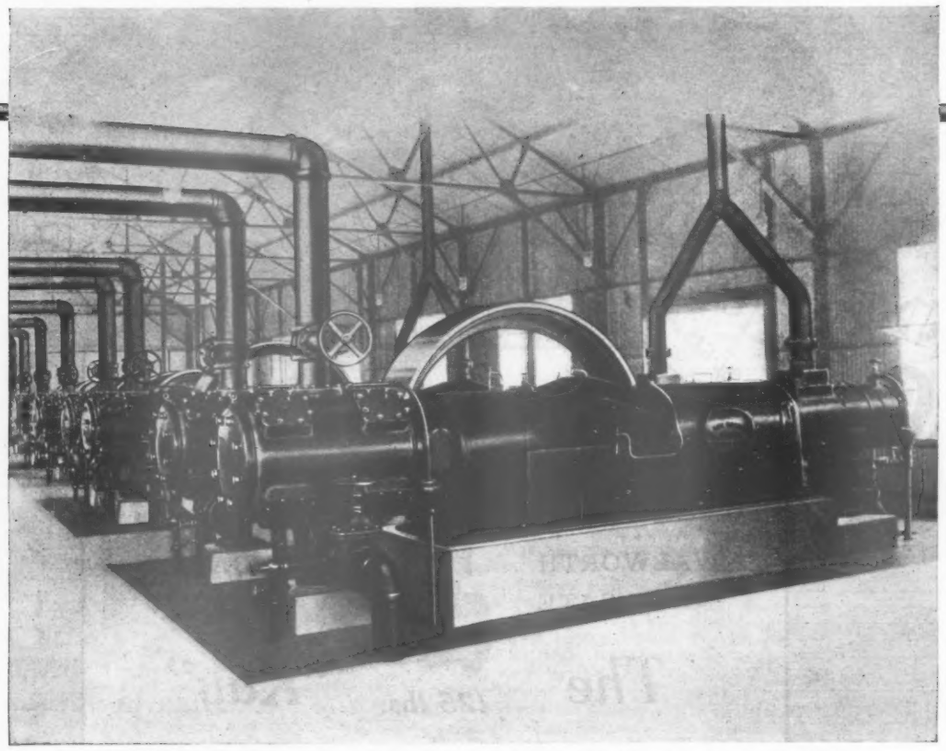
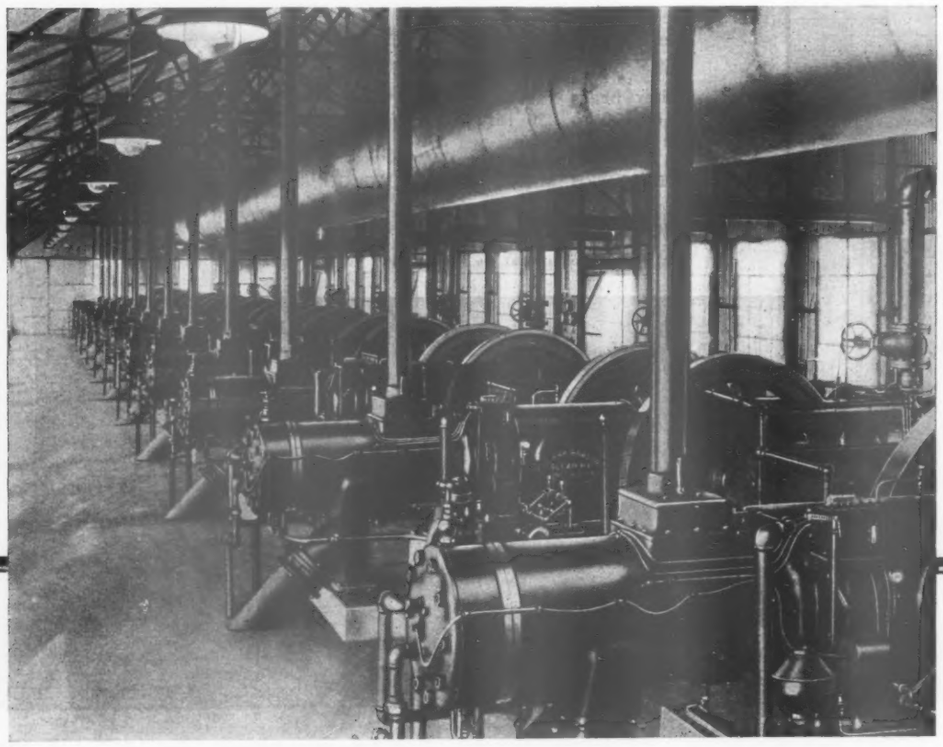


Above—Clark Compressors in Plant No. 1, Comar Gasoline Co., Tonkawa Field

Below—Clark Compressors in Plant No. 2 Comar Gasoline Co., Tonkawa Field

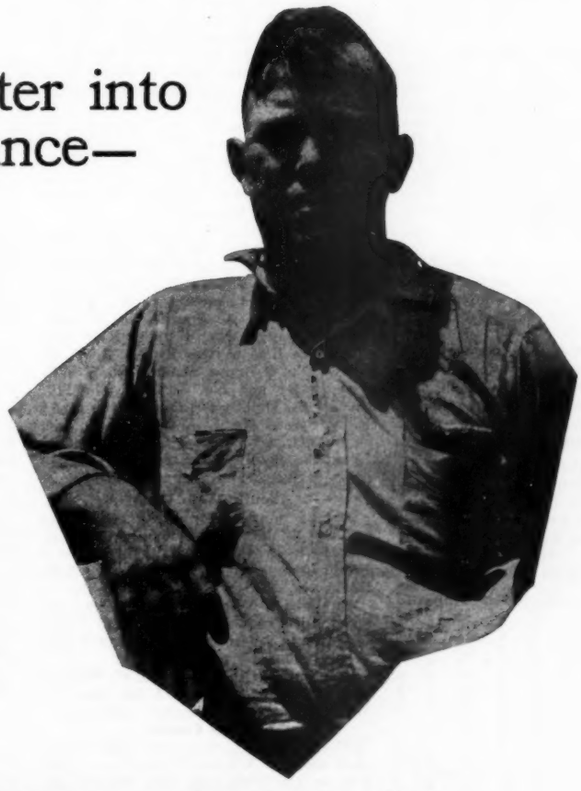


Gas Compressors

13

—May be an unlucky number, but not when CLARKS are used—

LUCK doesn't enter into CLARK performance—



"Thirteen may be an unlucky number but not when CLARKS are used," says S. W. Craig, the General Superintendent of the Comar Gasoline Company, Tonkawa Field, Oklahoma.

This company escapes the hoodoo for they have not only 13 CLARK 80's in their Number Two plant, but also have five 80's and two 165's in their Number One plant —a total of twenty compressors, all operating A-1 and giving the very best of satisfaction.

CLARK BROTHERS COMPANY

OLEAN, N. Y.

Sold by **Gas Engineering and Construction Company**

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Kentucky—Tennessee

By Vern T. Whitney

Russell Development Co.'s wildcat near old Glenmary Pool, Scott County, Tennessee, south of Wayne County, Kentucky, makes 50 bbls. Hupp, Duff & Co. well in Isenville Pool, Elliott County, Kentucky, making 15 bbls., extends production. Resumption of activity in shallow territory of Warren County.

BOWLING GREEN, Ky., Nov. 3.—Two wildcat completions, one in Tennessee and the other in the eastern division of Kentucky, together with resumption of work in the shallow sand area of Warren County in the western division, are the high lights of the week in these fields.

It is reported that the Russell Development Co. of Cincinnati has just brought in a wildcat well showing for 50 bbls. or better at Rugby Road near the old Glenmary Pool in Scott County, Tennessee, south of Wayne County, Kentucky. This test was drilled to a total depth of 1,401 feet and showed 18 feet of sand which was topped at 1,380 feet. After the sand was shot the well made several flows and tankage was being erected to take care of the production. Oil from the Glenmary Pool is purchased by the Standard Oil Co. of Kentucky and is shipped by tank car over the Queen & Crescent Railroad.

Tennessee should have had a large production long before this, as the well-known Kentucky producing sands undoubtedly extend across the State line, but shortage of transportation facilities and the general demoralization of the producing business, which set in shortly after the Kentucky fields had been brought in, have held things up. With better conditions considerable exploration work should be done in Tennessee next spring.

An important extension of the Isenville Pool in Elliot County in the eastern division, is reported in the completion of No. 1 on the V. O. Davis farm being developed by Hupp, Duff & Co. This well is 1 mile from Burke postoffice on Rocky Branch and extends production 3 miles to the north. This test was finished at 875 feet in the Weir sand and is reliably reported to have made 15 bbls.

Week's Work

A summary of the week's work in the entire State of Kentucky shows a decrease of 2,054 bbls. in production 2 less completions, 1 less producer, 2 less dusters and 1 less gas well, compared with the previous week. The wells were distributed by counties as follows:

County—	Comp.	Wells	Prod.	Dry	Gas
Barren	6	5	27	1	0
Lawrence-Johnson	4	4	172	0	0
Johnson-Magoffin	3	3	16	0	0
Allen	3	3	22	0	0
Cumberland-Monroe	3	1	8	2	0
Warren	2	2	19	0	0
Martin	2	0	0	0	2
Lee	1	1	10	0	0
Elliott	1	1	15	0	0
Wayne	1	0	0	1	0
Russell	1	1	9	0	0
Metcalf	1	0	0	1	0
Owensboro district	1	1	4	0	0
Total	29	22	302	5	2
Last week's total	31	21	2,356	7	3
Difference	2	1	2,054	2	1

Warren County Busier

Due to recent completions in the shallow sand in the vicinity of Richpond, south of Bowling Green in Warren County operators have resumed drilling in that section and at this writing there are eight rigs running. Roy Hogan is drilling No. 3 Ben Ford and spudding in No. 3 L. C. Dillard. No. 2 Dillard is being cleaned out after a shot from 424 to 436 feet; H. V. Talor's No. 10 Smith was being cleaned out after a shot and No. 11 was being rigged up. Caskey & Pryor's No. 5 Price was spudding at 52 feet; J. J. Fort's No. 1 Shannon 10 acres was going ahead at 132 feet; Sine, Doak & Wile were down 203 feet and drilling in No. 3 Shannon 60 acres. Bishop Russell's No. 4 Lee Butts was drilling at 265 feet.

In this district D. T. Bolling is drilling No. 1 McDonald down to the pay below the shale after missing the shallow pay. This test is of the utmost importance as it is the first deep test yet to be drilled in this immediate vicinity.

North Weir Field

The Union Gas & Oil Co. again scored the largest well of the week in the eastern division on its No. 1 C. K. Dobyne No. 3 tract. This well was estimated at 100 bbls. from the Weir sand at 792 feet and extends production several locations to the north of No. 1 Dobyne, of the same company, completed three weeks ago for 100 bbls flush. This property is in Section 22, about 3½ miles north of Keaton in the North Weir sand field of Lawrence and Johnson Counties. In the same district, the Union Co.'s No. 9 on the M. E. Sparks place tested 30 bbls. from the Weir sand at approximately 798 feet.

In district No. 33, the Union Gas & Oil Co.'s No. 13 on the George Evans pumped 40 bbls. at 800 feet in the Weir sand. On the Ira Lester farm W. M. Stone's No. 6 was reported making 2 bbls. from the Weir sand.

The Union Gas & Oil Co. is rigging up to drill No. 8 on the J. C. Gillem No. 1 farm and is moving a rig to drill No. 29 location on the P. P. Holbrook and is also moving a machine to No. 1 location on the R. N. Sparks No. 2 farm. This company's No. 4 John Rose was drilling in lime as was its No. 3 W. D. Lester, No. 7 Laura Skaggs, No. 7 William Lester and No. 34 J. J. Gambill. No. 7 J. A. Dials was fishing in the sand; R. N. Sparks No. 1, on No. 1 farm, was on top of the Weir sand; No. 22 Sanford Lyon, No. 9 M. E. Sparks and No. 18 Andrew Skaggs were being cleaned out.

South Weir Field

In the South Weir Field, comprising parts of Johnson and Magoffin Counties, the Kentucky Counties Oil Co. scored a 10-bbl. pumper in No. 3 on the C. & E. Roark No. 2 farm, in district No. 31.

In district No. 30 near Elna the Atlantic Oil Producing Co.'s No. 15 Frank Conley was reported to be making 5 bbls. at 872 feet from the Weir sand.

The Carter Oil Co.'s No. 2 C. Wheeler in district No. 29 tested 1 bbl. from the Weir sand at approximately 879 feet.

Wayne County

The only completions recorded for the past week in Wayne County was a dry hole on the Bell heirs farm district No. 3 drilled by Wetzel & Bell to a total depth of 860 feet.

Three new wells were started in district No. 13, the Beaver Oil Co.'s No. 7 T. C. Morrow, Superior Oil Corp.'s No. 1 Burnett and Wright & Bell's No. 1 Elam. In the same district, A. G. Bryant's No. 2 Shird Bryant was drilling at 150 feet; Bowden and others' No. 2 Morrow heirs was on top of the pay sand and Cooper & Miller's No. 1 Grover Roberts was making headway at 320 feet.

Lee-Owsley Counties

The Henry Oil Co.'s test on Upper Buffalo Creek in Owsley County, 18 miles from the nearest production at Idamay, is again being watched, as a rig has been put over the hole to take the place of the one burned down when the well came in flowing three weeks ago. This well is in the Maxon sand at 1,107 feet and is by all odds the most interesting development in the eastern Kentucky Field at present.

In district No. 35, Lee County, Hupp, Duff and Co.'s No. 1 on the J. E. Mays farm was reported good for 10 bbls. at 1,200 feet. This well extends production several locations westward.

Martin County

The bringing in of two good gas wells in the vicinity of Inez in Martin County has stimulated drilling activities in that area and already the Carter Oil Co. has acquired, according to reports, 46,000 acres of leases and is arranging to put down a test near Pilgrim on Wolfe Creek.

The Big Derby Oil Co. finished a gasser in No. 1 Dempsey estimated at 2,500,000 feet. The same concern's No. 1 Blankenship was estimated at 3,000,000 feet of gas daily. These leases are in the immediate vicinity of Inez. At present the Derby Co. is drilling No. 2 Dempsey, No. 2 Blankenship and No. 1 Alfred Carter, the latter being 1,800 feet in depth at this time. The Carter property is about 2 miles above Inez on Coldwater Fork of Rockcastle Creek.

Western Division

The Richpond Pool in southwestern Warren County and the Emery-Moore Pool in Barren County are the main centers of attraction at this time in the western division. All other sections remain comparatively quiet.

Barren County had six completions, five making producers increasing production to the extent of 27 bbls. The best was that of Fred Moore on his No. 6 fee, in the Emery-Moore Pool, west of Glasgow. This well tested 10 bbls. at 528 feet after 12 feet of sand was shot with 30 quarts of nitro. In the same vicinity the Star Oil Co. finished two producers. Its No. 10 Ritchie showed 3 bbls. of pipe line oil at a total depth of 525 feet. Shale was from 292 to 349 feet and the sand from 520 to 525 feet. No. 3 Free tested 4 bbls. at 519 feet. Shale was from 343 to 392 feet. The Carter Oil Co.'s No. 12 Wininger showed for 6 bbls. after the sand from 515 to 522 feet was shot with 30 quarts. Shale was topped at 268 feet and was drilled through at 321 feet. Forty feet of 8¼-inch casing and 325 feet of 6¼-inch casing was set.

The Emery Oil Co.'s No. 3 Barton, between Glasgow and the Emery-Moore Pool, was dry at a total depth of 900 feet. On the Saunders to the south of the Barton and on the Davidson to the northwest this company recently drilled two dry tests. The Emery interests recently took over this Barton farm on which 14 wells were drilled prior to 1920, together with the equipment with the view of finding a deeper pay sand. Since this last well failed to show production the property will be junked and the lease abandoned.

On the Winn farm, near the city limits of Glasgow, Callahan & Winn's No. 2 was reported making 4 bbls. from a sand found 35 feet below the black shale.

Warren County

The well on the Davenport lease in western Warren County recently brought in by T. A. Sheridan is still shut in awaiting pipe line connections, which are now being made by the Paragon Development Co. So far all available storage on the lease, amounting to 1,900 bbls., is full and no real test has yet been made. During this past week the well has flowed at intervals, although it has been pinched in as much as possible and it is estimated by Mr. Sheridan that over 1,000 bbls. of crude oil has been wasted. The well was finished at a total depth of 461 feet, four feet in the sand, and is over three-quarters of a mile from any other producing well.

In the Richmond area No. 9 Smith of the Rockfield Oil Co. is a 12-bbl. pumper at 460 feet. No. 10 was drilling on top on the pay sand and No. 11 is spudding.

In the Browning district, the Lucille Oil Syndicate's No. 5 on the Morehead place was reported good for 7 bbls. in the deep sand about 90 feet below the shale.

Allen County

Williams & Davis got the best well of the week in Allen County in No. 1 on the Marvin Dodson tract at a total depth of 305 feet, 30 feet below the shale. It started off making 12 bbls. from 28 feet of sand. The Dodson lease is in semi-wildcat territory lying between the Justice and Kerley Pools and opens a new prospective area for future development.

On the Wheat lease in the Trammel Creek section, Bastrus and others' No. 3 tested 5 bbls. at 278 feet, approximately 30 feet below the shale.

Mrs. J. McAlpine finished No. 7 Cherry, in the McReynolds Pool, for 5 bbls. on jack at 267 feet.

Cumberland County

In the Sulphur Creek district of Cumberland County Combest and Carter's No. 3 on the Huddleston-Payne lease proved to be quite a disappointment as it only pumped 8 bbls. from the pay below the Pencil Cave at 872 feet.

The wildcat test of W. S. Raydure on the Anderson farm at Galloway Creek was reported dry and abandoned at around 1,000 feet. This operator is drilling on the Cary farm in the same neighborhood.

The Judio Development Co., Inc., just finished a duster in No. 5 on the J. B. Hume tract at Judio Creek, in the western part of the county, at 1,100 feet. It will be remembered that No. 1 Hume made 91 bbls. the first seven hours at 495 feet and No. 2 started off at the rate of 200 bbls. the first 10 hours at 465 feet. These wells have now settled to about 7 bbls. each.

Other Completions

The Pellville Oil Co.'s No. 3 Brown, in the Pellville district of the Owensboro section, tested 15 bbls. from the shallow Jett sand at around 460 feet. It will settle to about 4 bbls.

In the vicinity of the Creelsboro Pool in Russell County, Oldham and associates finished No. 1 J. J. Goodman estimated at 9 bbls. at 439 feet.

In Metcalf County, the test made by T. L. Gorby on the L. Ball farm, near Knob Lick was dry and abandoned at a reported depth of 500 feet.

A test of great importance is now being drilled by T. Petty and others on the A. J. Thompson farm near Edmonton, the county seat of Metcalf County. Late reports state the hole around 1,000 feet which would be slightly below the Pencil Cave formation. Operators are of the opinion if a sand is encountered in the deep horizon it will produce oil in large quantities.

TO DRILL IN WASHINGTON

According to a letter received by The Oil and Gas Journal, drilling operations on the first test well on the Montesano-Melbourne anticline in the State of Washington will commence as soon as the derrick is constructed and tools arrive on location. The rig timbers are already upon the lease and the derrick is being constructed. The test is located about 1¾ miles southwest of Montesano, Wash., in Grays Harbor County, on the east half of the northwest quarter of Section 13, Township 17n, Range 8w, Willamette Meridian.

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West of the Mississippi—Stores Everywhere

In Oil Country Equipment the most HUMAN Organization in America

Pennsylvania-West Virginia

By D. S. Wakenight

Pure Oil Co. gets 180-bbl. producer on Joes Creek, Sherman district, Boone County, West Virginia. More wildcatting in southwestern districts. Chartiers Oil Co. has 50-bbl. well in Perry County, Ohio, and East Ohio Oil & Gas Co. one in Holmes County. Ohio Fuel Supply Co.'s Trenton Rock test, duster.

PITTSBURGH, Pa., Nov. 3.—Development work was not entirely featureless during the past week. Operators and producers continue to take a more optimistic view, based on the decline in production. So far as general conditions apply to the eastern fields, the demand for crude of the Pennsylvania grade has been increasing for six weeks, less crude is going into storage and the pipe line companies are no longer troubled for room to take care of all the oil offered.

There were more wells completed than during the previous week but only a few better than average. The source of the greatest amount of new production is the deep sand territory in southeastern Ohio, but these fields completed no large wells during the week. In Section 32, Coal Township, Perry County, the Chartiers Oil Co. got a 50-bbl. producer when it completed and shot in the Clinton sand its No. 191 on the Hocking Valley Products Co.'s property. It is located in defined territory. On Lot 17, Prairie Township, Holmes County, located one-half mile east of the test on the L. A. Sowash farm, the East Ohio Gas Co. got the same kind of a producer when it drilled its test on the Wayne F. Kendall farm through the Clinton sand. In Section 26, Ward Township, Hocking County, the Evans Oil & Gas Co. completed a 10-bbl. pumper at a second test on the William Coe farm. In Monroe Township, Holmes County, the Central Ohio Gas Co.'s test on the U. S. Davenport farm came in a gasser good for 2,500,000 feet when drilled through the Clinton sand.

Trenton Rock Duster

When drilled through the Trenton Rock it was definitely settled that the Ohio Fuel Supply Co.'s test on the Licking County Fair Grounds, at Newark, is a duster. This was the greatest disappointment of the week. The possibility of the development of a Trenton Rock Pool in the vicinity of Newark remains to be determined by drilling more tests. As between producers and dusters completed, the record up to this time is fifty-fifty. The first Trenton Rock producer was completed on the W. W. & A. T. Wehrle farm and reported holding up at 30 bbls. a day. The second completion is located on the Zartman farm and is a duster. The third to be completed is the Pure Oil Co.'s venture on the Ilena Smith farm, a producer good for 30 bbls. a day. Now follows the test on the Fair Grounds, a duster. To make the Trenton Rock attractive there will have to be a higher average of producers for the cost to drill to the Trenton Rock pay—between 4,300 and 4,400 feet—is greater than in any other section under development in the eastern fields. At the present time there are but three tests starting.

Fair Shallow Sand Wells

Morgan County continues to furnish fair producers. In Section 28, York Township, the Sun Oil Co. completed and shot in the Berea grit No. 5 on the Grant Bailey farm. It is good for 35 bbls. a day. In Section 32, same township, the Pure Oil Co. got a 25-bbl. producer at a second test on the Isaac Smith farm. In Section 8, Sharon Township, Noble County, H. A. Hendershot & Co. got a 3-bbl. pumper in the Macksburg 700-foot sand at No. 3 on the Mary A. Keyser farm. In Section 7, Center Township, John Kemp and others have a light show of oil in the Buell Run sand at No. 3 on the John McWilliams farm. The First National Bank of Lowell completed No. 63 on the C. E. Smith farm, in Section 21, Warren Township, Washington County, and has a duster in the first Cow Run sand. In Ludlow Township, the Carter Oil Co. got a gasser when it drilled No. 16 on the D. B. Mulinex farm through the Big Injun sand. In Section 26, Muskingum Township, A. F. Flack & Co. drilled a test on the John Wagner farm through the Mitchell sand, showing for a very light pumper. In Newport Township, Sadie L. Clawson has the same showing in the same formation at a second test on the Katherine Berg farm. In the same township, O. S. Reckard has a 5-bbl. pumper in the Keener sand at No. 5 on the F. F. Dana farm. In Lot 4, Newton Township, Licking County, Rugg & Farmer completed and shot in the Berea grit a second test on the Anna Smith farm, good for 3 bbls. a day. In the same township, E. J. Edmonds & Co. have the same kind of a pumper at a second test on the Robert Stair farm. In Marin Township, the Ohio Fuel Supply Co. drilled a test on the Spencer-Corkwell farm through the Berea grit good for 4 or 5 bbls. a day. In Franklin Township, Ralph Brothers have the same showing at No. 3 on the Gideon S. Smith farm. In Section 15, Knox Township, Columbiana County, the Kirk-Dunn Oil Co. completed and shot in the Berea grit No. 11 on the Yaggi heirs' farm, not good for more than 2 bbls. a day.

Southeastern Ohio Tests

In Section 8, Bowling Green Township, Licking County, the Central Ohio Gas Co. has moved a rig to a location on the Martha Copperrider farm. It will be drilled to the Clinton sand. In Perry Township, the Pure Oil Co. is drilling a second test on the S. E. Seward farm. Bishop & Parson are building a rig on the Martha J. Gutridge farm, in Franklin Township. In Newton Township, E. J. Edmonds & Co. started a second test on the Robert Stair farm. Jones & Reese are drilling on the James McKinney farm. In Hanover Township, the E. H. Everett Co. has a rig up on the D. O. Flonner farm. In Hopewell Township, the Carter Oil Co. has the rig completed for a second test on the Watts heirs' farm. In Section 17, Union Township, Muskingum County, local parties have completed arrangements and made the location to drill a test on the J. S. Evans farm. In the southeast quarter of Section 17, Knox Township, Guernsey County, the Ohio Fuel Supply Co. has the rig completed for a deep test on the J. H. Mackley farm. The same company is fishing on the William Worthing farm and drilling tests on the Henry Cornelius, William Snell, James Mercer farms and rigging up on the Charles Williams farm. In Pleasant Township, Perry County, the Allegheny Oil Co. is drilling on the Elizabeth Berrisford farm. Frank Goddard & Co. are drilling on the Ruth Uppole 10 acres in Newport Township, Washington County. In Bethel Township, Monroe County, the Carter Oil Co. started to drill on the J. F. English farm. The Simmons Oil Co. is drilling on the T. J. Hall farm.

Large Producer in Boone County

To the West Virginia fields belongs the distinction of having completed the largest well of the week. It is the Pure Oil Co.'s No. 13 on the LaFollette, Prichard & Robson tract on Jose Creek, Sherman district, Boone County. The first 24 hours after drilled through and shot in the Berea grit it produced 180 bbls. This is the only section in West Virginia that has undeveloped territory with the assurance of furnishing better than average wells. No. 14 on the same tract has started to drill. On Lens Creek, Louden district, Kanawha County, the Owens Bottle & Machine Co. has a gasser in the Big Lime at No. 3 on the R. G. Quarrier farm. In the older and more fully developed districts, light pumpers were the rule. On Prices fork of Fishing Creek, Grant district, Wetzel County, the South Penn Oil Co. got a 15-bbl. pumper in the Gordon sand at No. 15 on the I. D. Morgan farm. In Batelle district, Monongalia County, William Haught has a 5-bbl. pumper at No. 9 on the A. P. Haught farm.

Gasser in Speechley Sand

The Vesper Oil & Gas Co. has drilled a test on the Annie Lewis farm into the Speechley sand, in Union district, Harrison County. It is a gasser. On Lick Run, Ten-Mile district, the Hope Natural Gas Co.'s No. 7 on the G. W. Allbright farm is a gasser in the fourth sand. On Nats Run, Clay district, Ritchie County, the Carnegie Natural Gas Co.'s test on the M. S. Jones farm is a gasser in the Big Injun sand. In Union district, the same company's No. 3 on the T. A. Mason farm is a gasser in the same formation. In Sherman district, Calhoun County, the same company has a 6-bbl. pumper on the Stevens-Bennett tract. In Sheridan district, the Chemical Oil Co. has a light pumper at a test on the G. W. Taylor farm. In DeKalb district, Gilmer County, the Hope Construction & Refining Co. has a very light pumper in the Maxon sand at a test on the Earl Hardman farm. In Center district, the Leroy Oil Co.s test on the Chris Long farm is a gasser in the Big Injun sand.

Light Wells in Pleasants

In Grant district, Pleasants County, the Faith Oil Co.'s test on the W. E. Hammett farm is a 3-bbl. pumper in the first Cow Run sand. In Grant district, G. F. Roberts has a 5-bbl. pumper at a second test on the Roberts Brothers farm. On McKim Creek, McKim district., Howard Hall & Co. have a duster in the Squaw sand at a test on the P. Poynter farm. On Little Grave Creek, Union district, Marshall County, the Wasmuth & Callahan Oil Co. completed a 10-bbl. pumper in the Big Injun sand at a test on the Riley heirs' farm. In Liberty district, the Manufacturers Light & Heat Co. has a light show of oil in the Gordon sand at a second test on the Jacob Hironomous farm. In Cameron district, the Cameron Gas & Electric Light Co. has drilled deeper its test. It is a gasser in the Gordon sand. In Greenbrier district, Doddridge County, George Travis abandoned his test on the A. Drainer farm, after giving it a good test. In Central district, the Carter Oil Co. abandoned its test on the F. P. Dotson farm. In Otter district, Braxton County, the Pittsburgh & West Virginia Gas Co.'s test on the W. C. Hawkins farm is a gasser in the Gordon sand. The Star Gas Co.'s test on the H. C. Osborne farm in Curry district, Putnam County, is a gasser in the Big Injun sand. In Clay district, Monongalia County, the Carnegie Natural Gas Co. has a show of oil in the fifth sand at a test on the N. A. Moore farm.

Lower Southwest Wildcats

There is probably a little more wildcat work under way and starting than at any time during the year. On West Fork, of Twelve Pole Creek, Butler district, Wayne County, 2 miles south of Wayne, the Chartiers Oil Co. is drilling a test on the H. S. Jackson farm. This location is far removed from production. On Charley's Creek, Grant district, Cabell County, the Harshbarger Oil & Gas Co. is drilling a test on the J. T. Lockwood farm from the Big Lime formation to the lower sands. In the same district, on Big Two-Mile Creek, H. C. Zogg started to drill a test on the J. H. Harshbarger farm. On Bell Run, Sheridan district, Calhoun County, the Great Elk Oil Co. is fishing on the Baker-Baughman farm. On Anna Maria Creek, the Thomas Crowley Oil Co. has the rig completed for a test on the C. Thomas farm. In Jefferson district, Pleasants County, the Bailey Gas Co. has rigged up to drill on the Hiu Hassman farm. In Grant district, the Hammett Oil Co. is drilling on the W. E. Hammett farm.

Marion County Tests

Marion County has more new work under way and starting than since the first of the year. In Mannington district, the South Penn Oil Co. has a rig up on the Ash-Fluharty farm. On Dunkard Mill Run, the Owens Bottle & Machine Co. started to drill on the Henry Goodnight farm. On Davies Run, in the same district, the Carnegie Natural Gas Co. is drilling down to the lower sands its old No. 2 on the E. L. Morgan farm. In Mannington district, the same company is fishing on the J. L. Murray farm.

In Union district, Tyler County, Morgan Brothers started to drill on the U. G. Thomas farm. In McElroy district, the Hope Natural Gas Co. is rigging up on the N. Booher farm. The same company is rigging up on the H. M. Ward farm, in Court House district, Lewis County. In Skin Creek district, the Re Oil & Gas Co. has shut down at 2,620 feet on the T. J. Lough farm. In Court House district, the Crystal Oil & Gas Co. has a rig up on the John Hammett farm. In Otter district, Braxton County, the West Virginia Central Gas Co. is rigged up to drill on the Perry Westfall farm. In Center district, Gilmer County, McIntosh & Miller have rigged up on the J. R. Godfrey farm. In DeKalb district, the Pittsburgh & West Virginia Gas Co. has a rig completed on the Okey Stalnaker farm. In Reedy district, Roane County, the Heck Oil Co. has a rig up on the D. H. Burroughs farm. In Spencer district, F. E. McIntosh & Co. are building a rig on the L. A. Short farm. In the same district, the United Fuel Gas Co. has made a location on the C. C. Riddle farm. In Reedy district, Wirt County, G. L. Cabot is due in the salt sand on the W. F. Thomas farm. In Smithfield district, the United Fuel Gas Co. is building a rig on the Anna Looney farm. In Washington district, Calhoun County, the Hope Natural Gas Co. has started to drill on the James Knott farm.

Putnam County

In Curry district, Putnam County, the Star Gas Co. is due in the Big Injun sand on the H. C. Osborne farm. The Commercial Gas Co. has started to drill on the James Bays farm. In Liberty district, Marshall County, the Manufacturers Light & Heat Co. is rigging up on the J. M. Rine farm. The same company is building a rig on the Lindsey Burley farm. The Waynesburg Gas Co. has drilled to a depth of 1,940 feet on the Alfred McCluskey farm and shut down. In Center district, Wetzel County, the Hope Natural Gas Co. is rigging up on the J. W. Allen farm. In Proctor district, the same company has made locations on the N. H. Goddard and Lemasters heirs' farms.

Southwest Pennsylvania

The only feature in the southwest Pennsylvania fields during the week was

(Continued on Page 82)

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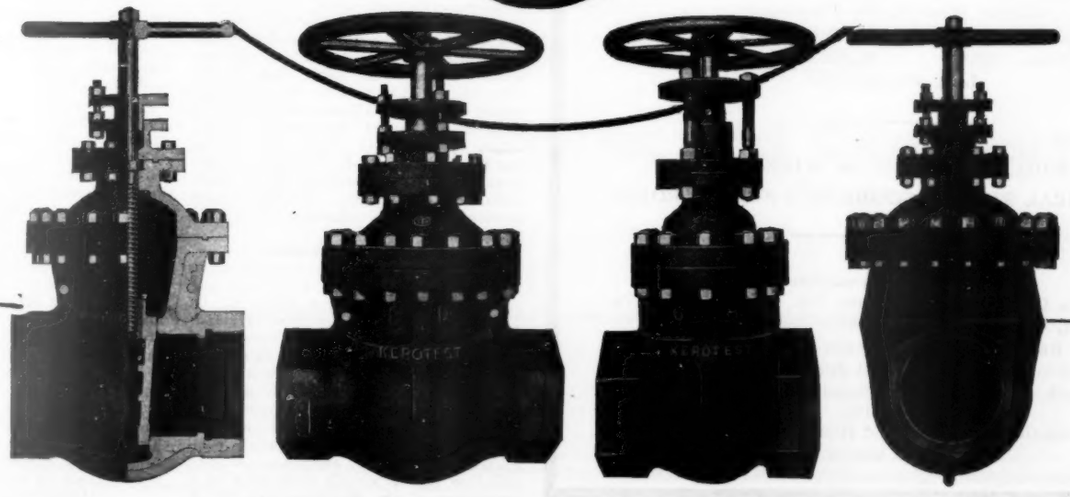

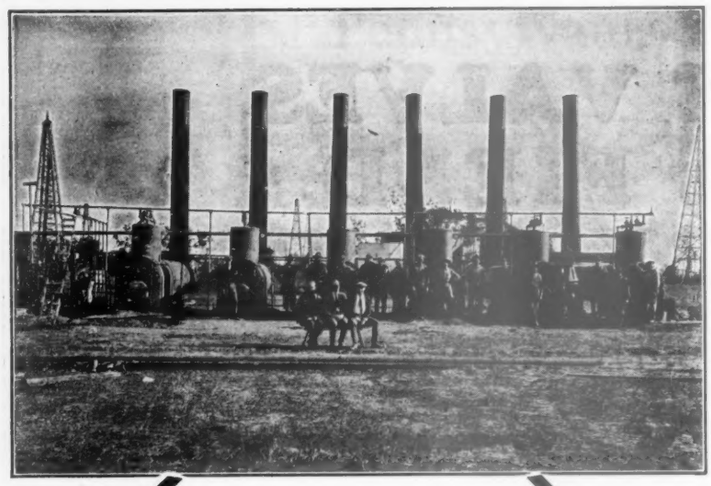

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AGREEMENT ON STANDARDIZATION IS NOW AWAITING APPLICATION

By L. M. Fanning

When the board of directors of the American Petroleum Institute at its recent meeting in New York adopted specifications for steel and iron pipe for oil country tubular goods and dimensional standards of cable drilling tool joints, together with regulations for labeling standardized equipment and for licensing the use of the A. P. I. monogram, standardization in the oil fields took on the complexion of an actual fact. It marked initial definite action in a standardization program which, it is believed, will save the industry millions of dollars as it becomes effective. The directors also approved the comprehensive standardization program, which provides for the creation of special committees covering the nation and of district committees, where necessary, to work under the special committees, and for the creation of a general committee, composed of chairmen of the special committees, for the purpose of reviewing and co-relating the work of the special committees and of serving as a point of contact with the board of directors of the institute. This plan was previously approved by the general committee and has been in practical application for several months. Several changes in personnel were made, and the work of the special committee now goes forward with the official sanction of the directors.

Next Step Application

With the approval by the directors of the report of the special committee on stabilization of steel and iron pipe for oil country tubular material, of which J. Edgar Pew, vice president of the Sun Oil Co., is chairman, and of the special committee on standardization of cable tool joints, of which the late Grant Hubley, vice president of the Oil Well Supply Co., was chairman, and John T. Kirby, of the some company, vice chairman, the next step is the putting of the specifications into practical application.

In the case of pipe, the use of new sizes for which the institute has specifications, will probably come gradually, depending upon the extent of the demand of the users for these sizes. It is known that many inquiries have been made by users as to new sizes, and manufacturers are prepared to meet the demand as it arises. The A. P. I. specifications covering pipe and casing are not all new, many existing sizes being listed. In the case of cable tools, the American Petroleum Institute standards comprise more a codification of present methods, and involve little change from the common practice, but their importance rests in the fact that hereafter manufacturers will keep joints to a common standard through a neutral agency or clearing house, provided by the special committee of the A. P. I.

An important feature of the work of this committee is the publication of specific tolerances on other finished dimensions. In connection with the two standardization matters acted upon it now rests with the users throughout the oil country to specify their material in accordance with the work done by the committee. The institute is publishing copies of the specifications which are available for general distribution. Final action by the board of directors of the institute will probably be taken at the annual meeting in December, on standardization of rig irons and on certain portions of standardization of rotary equipment.

J. Edgar Pew Leader

Final adoption of the standardization plan, follows initial work which has been going on for some time under C. A. Young, director of the division of standardization of the institute. The start of the standardization movement dates back about 2½ years, with Mr. Pew a leader in the movement. Mr. Pew is now the chairman of the general committee on standardization, which is made up of the chairmen of the various special committees. The special committee on steel and iron pipe originally functioned as a committee of the Mid-Continent Oil & Gas Association, which was active on standardization. The Tulsa Purchasing Agents Association also was early in the field in working on standardization of rig irons. Later the American Petroleum Institute was asked to take up the entire question of standardization, which it did. A great amount of work has been done by the special committees which comprise representatives of both users and manufacturers, and great progress has been made in ironing out differences of opinion among the various elements involved. Manufacturers have rendered the most valuable cooperation and, it is believed, have insured the success of the standardization plans now approved.

Steel and Iron Pipe

The specifications finally adopted for steel and iron pipe, will, in the judgment of Mr. Pew, meet with the approval of the entire consuming branch of the trade. Practical men worked out the specifications both from an engineering viewpoint and from a manufacturing viewpoint, and also from the standpoint of difficulties encountered in the field and the necessities for changes and more definite specifications.

The work was undertaken in the first place as a result of deeper drilling. Almost all the companies were requiring and having manufactured at greatly increased costs special material to meet these new burdens on pipe. Practically no new specifications for pipe have been issued within the last 20 years. Drilling conditions in the meantime have changed materially. Rotary drilling is entirely a new feature. Many losses were incurred as a result of the attempt to use tubular material which was never intended to be subjected to the strains of deeper drilling. Manufacturers informed the committee that within the last five years the trouble department has increased several hundred per cent in its complaints as a result of this condition. As the business has endeavored to meet these requirements, the result has been a multiplicity of specifications of all kinds. Differences in threads, in tapers and dimensions for the same size pipe have resulted in confusion and frequently in the loss of the hole.

This condition had to be remedied sooner or later. The committee endeavored to get agreement both with the manufacturer and with the consumers so as to meet these requirements. Briefly, the committee's work which has been approved by the institute directors and which is now ready for adoption by the industry, provides for a certain thread for all similar size pipe; also for uniform taper and for uniform dimensions. It also provides for a longer average length of pipe which is considered a saving; for better specifications of physical requirements of pipe and better, more definite and uniform inspection. A working table on thread sizes is an important feature of the report. The committee's work was checked in every particular by the best engineering talent available, representing both the consumer and the manufacturer. Painstaking effort and much time was devoted to the work by both executives and engineers, who made frequent trips to the steel mills and otherwise contributed to the matter, and the mills in turn rendered valuable and essential cooperation.

Cable Tool Joints

The report on dimensional standards of cable tool joints, approved by the institute directors, provides for the ownership and control by the institute of one set of master gauges to be deposited in Washington, D. C., with the Bureau of Standards, and three sets of reference master gauges to be deposited with reliable custodians in the Eastern, Mid-Continent and Western districts of the oil country, to enable the various manufacturers to check their gauges from time to time. The cost of these gauges will be approximately $6,500. It is possible this amount may be reduced by grouping the

(Continued on Page 74)

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But you ought not blame them, they are made that way.

On the other hand, the Spang Weldless Jar is so constructed that it shows to decided advantage when used on wells where such conditions abound.

Intelligent construction and heat-treating of the alloy steel used in the Spang Weldless Jar has resulted in giving it a stronger, more serviceable and useful life.

SPANG Weldless Jars seldom break or fail. They are made from a single piece and carefully inspected and tested for all flaws of manufacture.

If you want a serviceable, economical drilling jar—use the SPANG Weldless.

Reasons aplenty why you should use the SPANG Weldless

- Excellent joints
- Greatly increased footage drilled
- Elimination of Jar Fishing jobs
- Reduction of drilling risk
- Three to five times as much service as other jars
- Increased profits.

SPANG
Thread Protector

Protect your Tool Joints with SPANG Thread Protectors. *Like all SPANG Products they guarantee absolute satisfaction and long, durable service.*

Spang and Company
Butler, Penna.

Sold by all Leading Supply Houses everywhere.

committee of the Mid-Continent Oil & (Continued on Page 74)

MEN KNOWN IN OILDOM

W. T. Thom, Jr.

Mr. Thom, who took charge of the Section, Geology of Fuels (oil, gas and coal) of the United States Geological Survey on September 15, began field work with the survey in 1912, working on coal and oil geology in the Rocky Mountain States. In 1917 he was one of the members of the Geological Survey cooperating with the Coal Production Committee of the Council of National Defense. In 1918 he was head of the Plan Section, Bureau of Statistics of the United States Fuel Administration. Mr. Thom was with the American Friends Service Committee, Child Relief Unit in Belgrade and Vienna during the spring of 1920. He took charge of the United States Geological Survey's work on coal geology in February, 1923, remaining in that position until he assumed his new duties in September of this year.

Mr. Thom was born at Roanoke, Va., in 1891 and attended schools in Washington, D. C. He was a page in the Senate in 1907. He entered Washington and Lee University in 1910 and obtained a degree in 1913. He received the Ph. D. degree in 1917 from Johns Hopkins University.

PERSONAL PARAGRAPHS

Mel Thompson of Petrolia, Ont., has returned from the Trindad fields.

* * *

Richard Miller has returned to Petrolia, Ont., from the Colombia fields.

* * *

M. Volway is reported in Medicine Hat, Alta., en route home to Petrolia from Borneo.

* * *

Mr. and Mrs. Robert McGregor and daughter Jean have left Petrolia, Ont., for the Peruvian fields.

* * *

H. O. Simcox, of the Denver offices of the Mutual Oil company, visited the Casper offices recently.

* * *

John McCort, who has been invalided home from Trindad is returning to Petrolia, Ont., via New York.

* * *

Ottis Haynie, scout with the Gulf Production Company, at Wichita Falls, Tex., for the past four years, has resigned to accept a position in the land and leasing department of the J. F. Lucey interests.

* * *

R. J. Matthews, with the Texas Pipe Line Company for the past two years, has resigned and has accepted a position with the Texhoma Oil & Refining department in the production and geological departments.

R. D. Matthews, comptroller of the Union Oil Company, Los Angeles, Cal., left early in the week for New York.

* * *

A. H. Emerson, of Toledo Ohio, secretary of the S. M. Jones Company, was in Casper, Wyo., calling on the oil trade.

* * *

K. M. Lindemann, representative of the Martin Oil Refining Company, of Chicago, was a recent visitor to Oklahoma City.

* * *

President K. R. Kingsbury, of the Standard Oil Company of California, visited Colorado and Wyoming developments recently.

* * *

W. F. Exner, secretary of the St. Louis Steel Castings Company, has returned to St. Louis after a visit to Oklahoma points.

* * *

Frank Webber, field superintendent of the Midwest Refining Company in northwestern New Mexico, has been transferred to Craig, Colo.

* * *

Duncan McMurphy has returned to Petrolia, Ont., after spending two years with the International Petroleum Company at Negritos, Peru.

* * *

Henry Stoltz, vice president of the Bartles-Maguire Company, jobbers, of Milwaukee, Wis., is ill. At the present time he is at a Milwaukee hospital.

* * *

Harry Gerke, of Fort Worth, Tex., independent operator in the Wichita and Archer County fields, has been on a tour of inspection of the California oil fields.

* * *

John J. Moran, of Boston, Mass., president of the New England Oil & Pipe Line Company, has arrived in Tulsa to spend a month looking over New England properties.

* * *

Frank Van Wormer of the M. & V. Tank Company, at Wichita Falls, Tex., has returned home with his family from an extended visit to the Pacific Coast.

* * *

E. E. Carter, representative of the MacWhyte Wire Rope Company, has left for Dallas, Tex., from where he will conduct a sales trip to Houston and other Texas points.

* * *

M. Shanahan, of the production department of the Mutual Oil Company at Fort Worth, Tex., inspected the company's holdings, recently in Archer and Wichita counties.

* * *

Fred Smith, formerly head of the shipping department of Cosden & Company, has been appointed chief clerk to D. W. Moffitt, vice president and director in charge of manufacturing.

* * *

L. W. Terrill, of Denver offices of the Western States Oil & Land Company, made a trip to Salt Creek, Wyo., in company with the superintendent of operations, Mark T. Rathvon.

* * *

E. W. Clark, vice president and general manager of the Union Oil Company of California, returned to Los Angeles recently following a rtip of inspection to the company's holdings in Colorado.

* * *

Ralph Johnson, manager of the Cleveland, Okla., refinery of the Johnson Oil & Refining Company, has returned home after spending several days at the Chicago offices of the company.

* * *

Charles T. Lupton, geologist of Denver, was in Casper, several days, having been at Sheldon Dome north of Riverton spotting another location, the third test to be drilled on that structure.

* * *

C. E. Nelson, of Minneapolis, Minn., general manager of the Wyoming Syndicate which is drilling a test on the Muskrat structure about 9 miles south of Shoshoni, Wyo., visited the field recently.

* * *

H. H. Jackson and Fred Aldrich of Detroit, Mich., and C. A. Daniel and Charles J. Uhland, of Grand Rapids, Mich., visited O. A. Daniel, of Casper, Wyo., who has been drilling a test about 25 miles west of Casper, Wyo., along the Yellowstone highway.

Dr. Norman Bridge was an interested witness at the opening of the Pan American case recently in Los Angeles.

* * *

Commander H. A. Stuart, United States Navy, formerly in charge of the Naval oil reserves, has been appointed to succeed Admiral Strauss as co-receiver in the Teapot Dome lease proceedings.

* * *

C. L. Mayhall, vice president of the Imperial Refining Company and the Kettle Creek Refining Company, left the Tulsa offices of the company last week on a several days' visit to Chicago and other points.

* * *

C. P. Clayton of Shreveport, La., was a Casper, Wyo., visitor recently. He has charge of drilling operations for the Southwestern Petroleum Company on the Medicine Bow structure southwest of Medicine Bow.

* * *

T. F. Thompson, who has been in charge of the Chicago offices of the Tidal Refining Company, is now connected with the Northland Oil Company with headquarters in Chicago. Mr. Thompson succeeded L. B. Patterson.

* * *

S. Clark Reed, of Pittsburgh, Pa., vice president in charge of branch stores for the Oil Well Supply Company, spent several days in Casper, Wyo., recently and was shown over the territory by the district manager, John J. Durst.

* * *

A. F. E. Clake, formerly superintendent of the Interstate Gasoline Company, has just been appointed southwestern district manager of the Insulating Products Company with headquarters at 1204 South Quaker Street, Tulsa, Okla.

* * *

J. C. Lindsay, general manager of the Marine Oil Company, has returned to Casper, Wyo., after an absence of several weeks spent in Colorado and Oklahoma. Mrs. Lindsay also returned to Casper from an extended visit to their former home in California.

* * *

H. B. Carpenter of Denver, Colo., sales manager of the asphalt department of the Midwest Refining Company, and C. C. Lakin, of Chicago, head of the asphalt department of the Standard of Indiana, were in Casper, Wyo., conferring with officials of both companies.

* * *

J. B. Ryan and Ned Mitchell of Kansas City, Mo., officials of the Indian Oil Refining Company, and Clay Webster of Kansas City, Mo., president of the Webster Oil Company, who is arranging to deepen his sulhpr water well near Wynnewood, have been visiting the fields.

* * *

James D. Berry, president of the James B. Berry's Sons Company, marketers, has returned to Oil City, Pa., after spending several weeks visiting the Chicago and Southwestern offices of the company. He was accompanied on the Southwestern trip by C. E. Miller, vice president of the company, Chicago.

* * *

George D. Locke, vice president of the Barnsdall Refining Company, Chicago, spent several days last week at the Tulsa offices of the company. While in Tulsa he visited the refinery of the company located at Barnsdall, Okla. Mr. Locke states that the refinery, which is a complete plant, can now handle 5,000 barrels of crude oil daily.

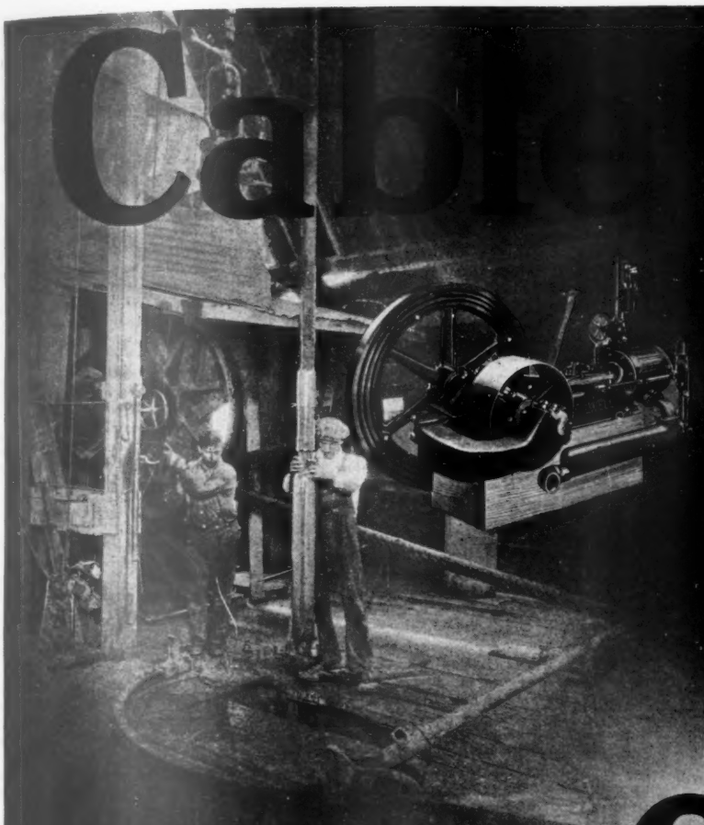
* * *

Several changes have been made in the personnel of the Sasper, Wyo., offices of the Williamsport Wire Rope Company. S. H. Smith is not with the company any longer. F. L. McClelland is in charge of the office and warehouse and H. M. Cone is in charge of the field work. H. H. Wrightsman is district manager for the Rocky Mountain region.

* * *

Herman Young, superintendent of the Axelson Machine Company of Los Angeles, is now in the East. Mr. Young's itinerary includes besides Portland, Ore., and Milwaukee, Wis., already visited, visits to Chicago, New York, Washington, Baltimore, Pittsburgh and a stay at the St. Louis plant of the company. On his return he will study foundry conditions in the larger manufacturing plants in order to keep posted on the very newest developments.

Cable



As drilling has become more severe, due to increased depth of wells and in consequence heavier strings of tools to be handled, we have strengthened the shafts of "Oilwell" Engines to meet these conditions by furnishing an outboard bearing as illustrated at the left.

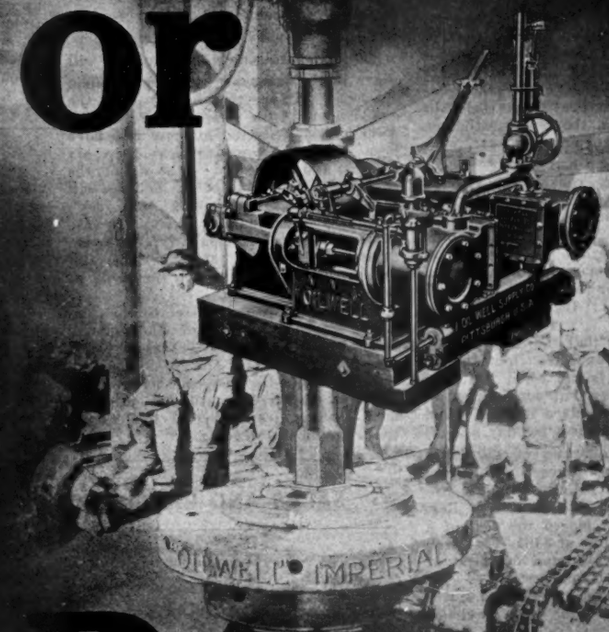
This outboard bearing is carried by an arm rigidly attached to the bed, and the arm is of such design and strength as to always hold the outboard bearing in line with the two main bearings, thereby distributing an equal pressure to each of the three bearings.

The construction of the outboard bearing is such that a belt, already clamped together, can be put on the engine pulley without removing any part of the bearing.

A special longer crankshaft is necessary to replace the regular crankshaft when the outboard bearing is used.

Described in detail in our Bulletin No. 54—get a copy at any of our 100 Branches.

or



"Oilwell" Twin Cylinder Steam Engines have been designed with the same care and attention to detail which has been responsible for the success of "Oilwell" Single Cylinder Steam Engines for so many years.

For Rotary Drilling, the Twin Engine has several advantages over the single cylinder type in that the Twin Engine cannot stop on center, and the absence of flywheel momentum facilitates quick starting, stopping, or reversing. It is also more sensitive, which is a great asset when making up pipe and, with it, a slower, positive motion can be obtained. *Bed plate, cross-head guides, and bearings for crank shaft are all cast in one piece.*

Each engine is given a running test before leaving the factory, and when shipped, is ready to perform the hard service for which it is designed.

For further information, send for Bulletin No. 49, or inquire at any of our 100 Branches.

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OILWELL SUPPLY CO

NEW YORK - LONDON - TAMPICO - PITTSBURGH, U.S.A. - SAN FRANCISCO - LOS ANGELES

World's Largest Manufacturers of Oil Field Equipment

NATURAL GAS DEVELOPMENTS

MAKE GAS ESTIMATES IN SOUTHERN ALBERTA

CHATHAM, Ont., Nov. 1.—Gas engineers named by the various parties interested in the Lethbridge gas rate hearing have submitted a formal report to the Alberta Public Utilities Commission upon the prospective situation of the Canadian Western Natural Gas Co. in the southern Alberta fields. The report is signed by F. P. Fisher, chairman of the conference, representing the Public Utilities Commission; George E. Welker, representing the company; and A. I. Payne representing the city of Lethbridge and the various towns interested in the rate hearing. The report finds that for the drilling season of 1925 prudent development of the Foremost gas field would require drilling both for exploration and development. The conference recommends two exploration wells for 1925, to be started as early in the season as possible, so that further drilling may be guided by the results of these wells. Not less than two development wells, in addition to the exploration tests, should be completed in 1925. In case of delay with the exploration wells, the development wells should be drilled in territory already proven. It is impossible to determine the decline of the field from data now on hand. The conference estimates $35,000 for each well, making a total of $140,000 for the four wells, making allowance for field lines or line equipment. The program for 1926 drilling cannot be laid down in advance of the first season's production showing of the new field.

In answer to a question by the company relative to estimated gas sales in the next two years, the report estimates 400 additional consumers each year, with these results:

Year 1924-1925: consumers, 12,300; total sales, million feet, 2,121,750. Year 1925-1926: consumers, 12,700; total sales, million feet, 2,190,510. They allow a rate of 1,300 feet as the consumption per consumer on a maximum day, making the consumption for the winter 1924-1925 16,000,000,000 feet; 1925-1926, 16,500,000,000 feet.

The experts find that the total production that can be expected from the 12 wells in the Bow Island Field is 1,190,000,000 feet per day, but with a view to further decline they place it at a round figure of 200,000,000 feet per day.

Answering the question of the Lethbridge counsel regarding cost of construction of a plant in 1912 to supply Lethbridge, including a pipe line from Bow Island, the experts placed the cost of a hypothetical main line at $461,574, distribution plant $166,318, and overhead at $130,037, making a total estimated cost of $757,929. The report notes that this figure does not include the cost of wells as field investment.

The report places the cost in 1912 of a hypothetical plant to supply North Lethbridge at $36,000.

The report estimates that at the 48-cent rate the annual consumption per consumer is 172,500 feet; at 45 cents, 181,000 feet; at 42 cents, 188,700 feet; at 40 cents, 194,000 feet; at 37 cents, 202,000 feet; at 35 cents, 207,000 feet. In other words, the total estimated consumption at the 35-cent rate for the next two years would be: 1924-1925, 2,545,000 feet; 1925-1926, 2,630,000 feet as against the following at the 48-cent rate: 1924-1925, 2,121,750 feet; 1925-1926, 2,190,750 feet.

In answer to two questions by Lethbridge as to what the life of Bow Island Field would have been had Calgary, or that city and other towns, not been supplied since 1912, the report says:

"The remaining supply of gas in the field at the same rate of delivery (referring to hypothetical situation created by questions) would continue the service of Lethbridge alone more than 86 years, and Lethbridge and the combined towns up to and including Nanton for 47 years. These figures are in addition to the 12 years already supplied. In reality, no actual conditions would arise under which deliveries would remain constant for such a period. In order to make this calculation it has been necessary to assume a permanent 35-cent rate, with a sufficiently low price for additional power gas to meet competition and secure a 44 per cent industrial load. In making these assumptions we do not presume to make any prediction as to the change in the size of the cities and towns. The only real significance which could attach to the above answer would be that sufficient gas originally existed in the Bow Island Field to last for a very long period, if conserved for the use of Lethbridge alone."

The report will furnish the basis for rate-fixing for Lethbridge and the towns interested.

SOUTHWESTERN GAS CO. TO INSURE EMPLOYES

SHREVEPORT, La., Nov. 1.—The Southwestern Gas Co. has announced provision of a blanket life insurance policy for its employes in which every man and woman in the company's employ will share in the insurance without cost to them, the company paying all premiums.

The extent to which the employes will share in the insurance will depend upon the length of time they have been in the employment of the company. Policies of $500 will be delivered to those who have been with the company less than six months, and at the end of the six-months period the face value of the policies will increase $100 for each additional year's service to a maximum of $1,500. In case of permanent total disability, the beneficiary will receive at once the full amount of the policy which they hold at that time.

A picnic was recently given by the company, attended by 400 of its employes from the Beaumont, Texarkana and Shreveport divisions and from the stations all along its lines, the big event of which was a barbecue, with an entertainment program consisting of ball games, track events and dancing.

"OPEN HOUSE WEEK" BY UTILITY CONCERNS

A feature of the convention of the American Gas Association at Atlantic City was the conference of directors of public utility information committees, and the report by Alfred Fischer, director of the Utility Information Committee of Michigan on the public utility "Open House Week," held in Michigan towns under Mr. Fischer's direction. Several months of preparation laid the foundation for what proved to be a great success in establishing a new and general contact between the gas and the electric utilities and their patrons. Numerous managers, who cooperated were surprised at the number of patrons who accepted the invitation to inspect plants and offices and meet the utility employes. This subject will be discussed at the next annual utility convention in Oklahoma.

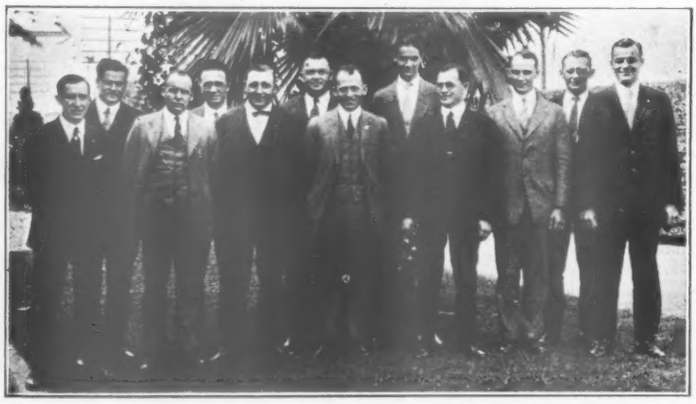
Throughout this convention, the subject of public relations in general, and of advertising in particular, was among the foremost considered. This discussion was crystalized in a paper read at the general session by Frank LeRoy Blanchard, of New York, director of advertising and publicity for the Henry L. Doherty interests. Mr. Blanchard presented specific figures as to expenditures for advertising and publicity by leading utility companies and organizations. He said the appropriation for this purpose ranges from one-half of 1 per cent to 3 per cent of gross revenues, and that results secured are fairly proportionate to the amount of the appropriation.

GAS ORGANIZATION FORMALLY APPROVED

PITTSBURGH, Pa., Nov. 1.—Pittsburgh City Council has approved the plan of Mayor William A. Magee to finance the organization of municipalities in western Pennsylvania, Ohio, West Virginia and Kentucky for conservation of natural gas and litigation against increased rates. The plan calls for each municipality represented in the conference to contribute 1 cent per person, based on the 1920 census. Pittsburgh's share was placed at $5,843.42.

At the recent annual convention of the American Electric Railway Association at Atlantic City, Mayor Magee delivered an address on "Relation of Municipal Officers to the Utility." Mr. Magee ma... a critical review of the subject. His ... was that the public developed first a ho... tile attitude toward utilities due to ... fault of utility management in its ear... days; that following a general hostile a... titude the public was highly suspici... of utilities and their management, ... that today the public is not hostile ... not suspicious but on its guard. H... thinks continued and unanimous eff... by the utilities along lines now being fo... lowed will gradually develop a spirit an... attitude of confidence on the part of th... public, the constantly greater degree o... public information and education making ... it more difficult for persons with persona... and unworthy motives to successfully mis... represent the facts.

SALES AND EXECUTIVE FORCE IN CONFERENCE



Members of the sales and executive force of the Hughes Tool Company met in a general sales conference at the home office and plant in Houston, Texas recently. Shown in the picture, from left to right, are: R. L. Long, Louisiana and Arkansas; R. O. Catland, California; Howe "Johnnie" Walker; F. L. Scott, Houston; L. H. Wellensiek, Houston; W. C. "Bill" Morgan, Oklahoma; H. W. Fletcher, Houston; H. R. Hughes, president, Hughes Tool Company; A. A. MacDonald, manager, California branch office and plant; R. C. Kuldell, general manager, Hughes Tool Company; H. A. Schaeffer, North Texas, and S. P. Brown, sales manager, Hughes Tool Company.

GAS LAWS OF STATES CONFLICT AT WASKOM

SHREVEPORT, La., Nov. 1.—With... drawal limit of 50 per cent of open flow ... production of gas wells as allowed by the ... conservation department of the Texas ... Railroad Commission, and the 24 per cent ... allowed by the Louisiana Department of ... Conservation has presented a new problem ... lem for the Louisiana commission and for ... operators and land owners in the Louisiana portion of the Waskom shallow gas ... district.

An early solution of the problem is anticipated in proposed rulings by the Louisiana commission and the attitude of the Texas authorities who have expressed a desire to cooperate with those of Louisiana in arriving at an adjustment.

To permit wells on the Texas side to produce the full 50 per cent allowed would be to drain leases on the Louisiana side and it has been proposed that the Texas authorities establish certain zones in which production limit will be reduced according to proximity of the wells to the State line and, similarly, to establish zones on the Louisiana side in which production limit will be raised. By thus establishing equalization of withdrawal from wells on both sides of the State line will be protected and the life of the field prolonged.

Formal opinion on the zoning system has not been issued by the Louisiana Attorney General's department although one is expected shortly as the matter has been placed before the proper authorities who have rendered a tentative opinion that the commission may raise the limit. Texas authorities have signified their willingness to work with those of Louisiana.

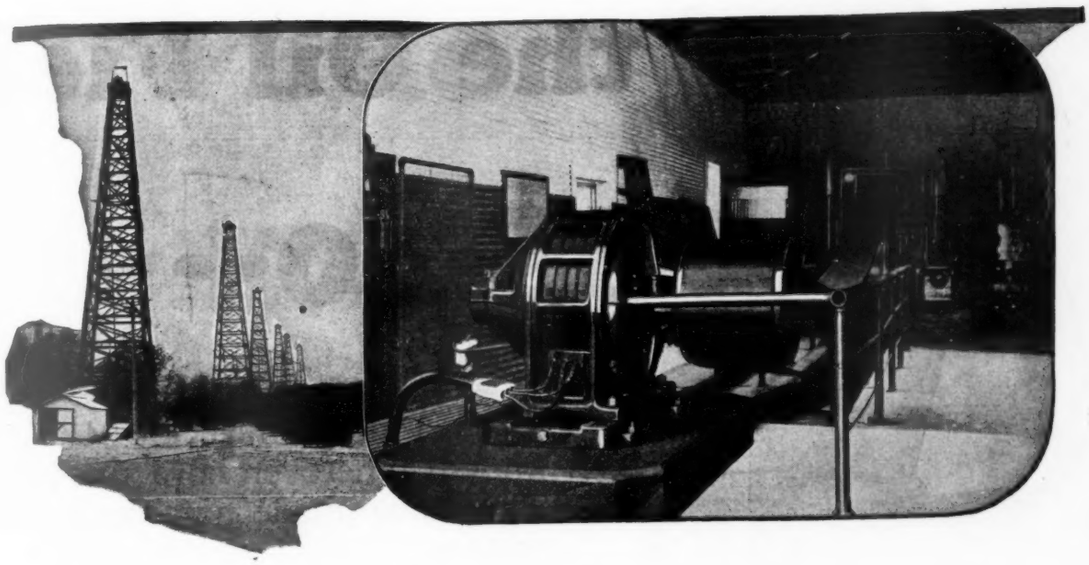
Waskom operators early asked the Louisiana commission as to its policies and a formal ruling to the above effect will be issued within a short time. H. W. Bell, supervisor of the mineral division, announced.

APPROVE MERGER PLAN

PITTSBURGH, Pa., Nov. 1.—It is officially announced that at a director's meeting of the Ohio Fuel Corp., which is the combined Ohio Fuel Supply Co., Manufacturers Light & Heat Co., and the Union Natural Gas Corp., the merger plan was declared in operation and that it has been accepted by the stockholders of the three companies. Ninety-five per cent of the shares were deposited. It is expected the new certificates will be ready by November 20.

ONTARIO GAS RATES

CHATHAM, Ont., Nov. 1.—The Natural Gas Board of Reference for Ontario has reaffirmed its award placing the town of Blenheim in zone 2, with a summer gas rate of 75 cents net, and a winter sliding scale of 50-55-65 cents, depending on the quantity used. The rating of the town of Tilbury, which has also appealed against being placed in zone 2, is reserved for further consideration.



Electric motor drive is the most economical for casinghead gasoline plants

Most casinghead gasoline plants are now driven by gas engines, using residue gas for fuel. Engine troubles, however, are found to be the cause of a big loss in gasoline production, more than offsetting the cost of electric power for motor drive. Speed variation also reduces output.

A Los Angeles plant replaced three 200 H.P. gas engines with three 200 H.P. slip-ring induction motors. The average shut-downs of four days per engine per month were eliminated, which more than paid the monthly power bill. In addition, the steadier speed at which the compressors were driven increased materially the daily production. The operating company was convinced of the advantages of electric drive and the entire lease was soon electrified.

Motor drive for vacuum pumps is even more necessary than for compressors. These pumps must be operated continuously at a fixed speed or the neighboring lease will profit by your loss. Any shut-down means a production loss of from 10 to 18 hours, the time required to again build up a vacuum.

The G-E oil well specialist in your district will gladly explain to you the advantages of electric drive for vacuum pumps, compressors and circulating pumps for casinghead gasoline plants and also for oil wells. Technical paper 503 mailed on request.

General Electric Company
Schenectady, N. Y.
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GENERAL ELECTRIC

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They Have Bee W the Oil Fields

SS-40+

SS-40 PLUS and SS-124 PLUS are known wherever hard drilling is done. They have made new records for chain service.

Only one calling card goes in the oil fields—and that bears the label of PERFORMANCE.

These chains of ruggedness-plus were well known in the designing rooms, laboratories and plants of Link-Belt, long before they had been tried out in the field.

They had won the double >—< arrow —Link-Belt's chain mark of quality.

Their super strength is a tested fact.

This is the Link-Belt Chain >—<

LINK-BELT COMPA ND
Leading Manufacturers of Conveying Powe

SS 40+ LINK-BELT

Welcomed by the World

SS-124+

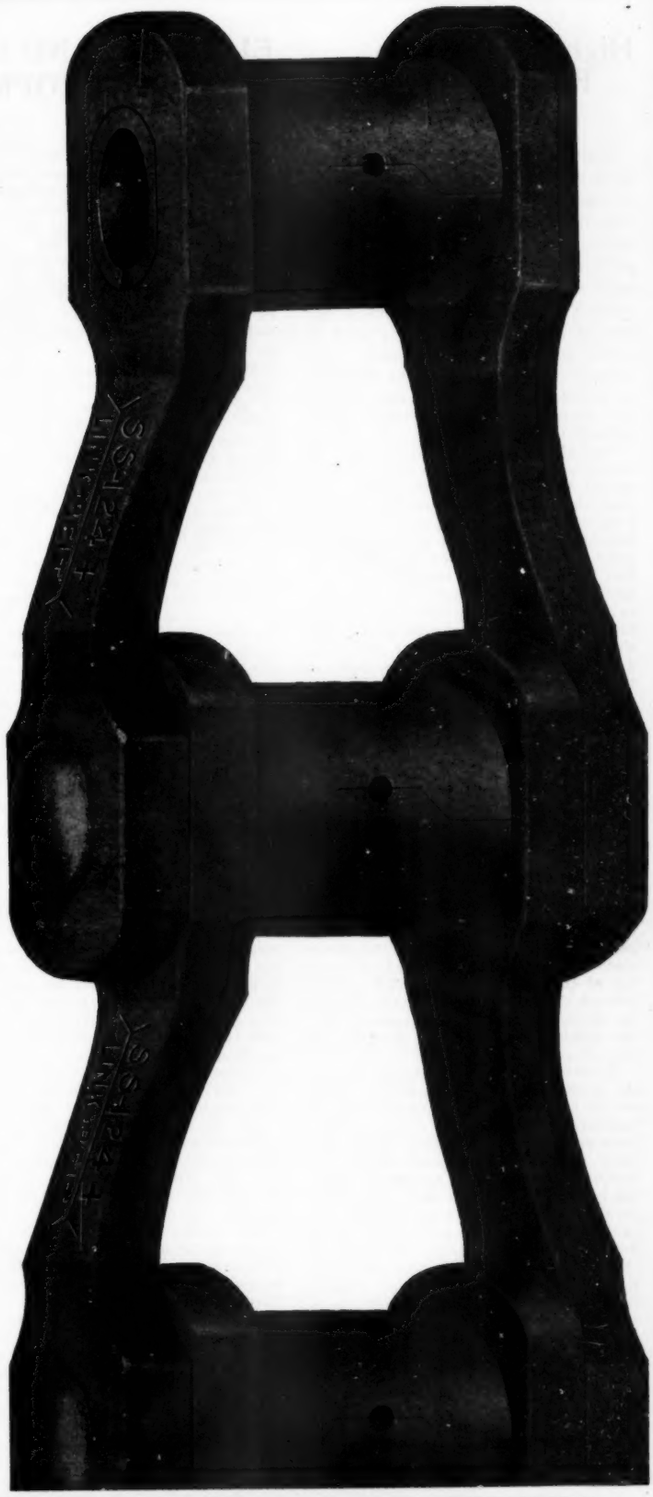
Drillers—you can now specify a chain *for the highest speeds ever marked in drilling;* a light chain for your engine drive.

SS-40 PLUS is *no heavier* than its famous predecessor, SS-40; and SS-124 PLUS no heavier than SS-124. **Here** you have a combination for *economy-plus.*

Claims are easy to publish—but this is a fact—SS-40 PLUS is 60% stronger than SS-40, and SS-124 PLUS is 35% stronger than SS-124.

SS-40 PLUS and SS-124 PLUS are now available to every driller.

Look for it on every link



INDIANAPOLIS
Power Transmission Chains

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SPROCKET CHAIN SS 124+

EQUIPMENT AND SUPPLIES

High Temperature Pressure Working Valve for Refiners

Working closely with a group of refiners who had experienced much difficulty in securing a valve which would meet with their requirements for high temperature-pressure work around cracking stills, especially such devices as the main outlet valves from tube heaters, the Homestead Valve Co. has announced a new type of valve which is creating much interest among refinery engineers. This valve is a product backed by 30 years' of experience in the valve business and two years of concentrated study on the refinery problem alone.

One of the first things which were required of the designer was that the valve should have no pockets, shoulders, crevices, slots or other obstructions of any form where carbon could collect and thus interfere with the proper operation of the valve. The plug type of valve offered the best solution to this problem and so a special type of plug valve was developed to meet the severe demands to be imposed on it. To avoid any shouldders or other obstructions, the passage way was made a full round, machine finished bore, so that the valve in the open position is nothing but a section of the pipe line. In order to assure easy operation, a special taper plug is used, which is so designed that sticking of the plug in the body is impossible.

In order to furnish a positive means for producing a pressure tight joint in the closed position, a special cam is inserted on the top of the plug surfaces. This cam forces the plug into its seat firmly in the closed position, to form a pressure tight seat and also prevents any carbon or other foreign substances from getting between the ground surfaces in the other positions which would prevent the proper seating of the plug when closed. Balancing of the plug is accomplished passing through the valve. These grooves furnish the means whereby objectionable thrusts are eliminated, and which produce the ease of operation obtained.

To avoid the constant leakage around the stuffing box which heretofore could not be eliminated, two features were incorporated into this type of valve which have proven very successful. These features are a dead gas space below the packing, and cooling fins around the packing box to help dissipate the intense heat. In allowing a dead gas space under the packing, the packing is not exposed to the direct intense heat of the live gases or other fluid passing through the valve, but the temperature is considerably reduced in that the heat reaching the packing is only indirect radiation. The cooling fins around the packing box reduce the temperature to even a greater amount, just as is accomplished in the case of a motorcycle cylinder or other air cooled motor. These two features so reduce the temperature of the packing that the disintegrating effect of the extreme temperature is not experienced, and a more efficient packing box is secured.

INSTALL NEW POWER PLANT

The Axelson Machine Co. of Los Angeles has recently completed and has in daily operation a new power plant. The equipment includes a 6-cylinder 125-horse power Holt tractor engine mounted on a concrete base and belt connected with a 220-volt generator. This new power plant is housed in a separate building on the Axelson property and was installed for power emergency conditions in case of an unexpected shortage such as all California experienced last spring and during the early summer.

ELECTION AND INVENTORIES HALT DEVELOPMENTS IN STEEL MARKET

By B. E. V. Luty

PITTSBURGH, Pa., Nov. 3.—The steel market has been rather dull in the past week, the condition being attributed to the influence of the election. As to steel buying in general, in the various lines, the second half of Sptember showed considerably more activity than the first half, the first half of October ran ahead of the first half of September but under the second half, and the second half of October was probably the quietest of all.

While these fluctuations have been plainly marked, they have had no plainly discernible influence on the rate of mill operation, probably through the heavier bookings being of orders for extended delivery, particularly in rails and freight car material. The steel industry has been operating at between 60 and 65 per cent of capacity since late in August. There has been only a little variation in general line buying, by jobbers and ordinary manufacturing consumers.

The steel market is showing no definite trend at the present time. It could not be expected to do so just before election, but there are no very positive predictions as to after the election. Business that has been held back to await the result of the election will presumably come out, but there is no great volume of that. In the late weeks of the year the market usually slows down, as buyers get ready for annual inventory, and thus there is not time available for any great buying movement, assuming that underlying conditions should warrant one.

Earnings statements of independent steel companies issued lately have been unfavorable, more unfavorable than was expected, and the Steel Corp.'s report, particularly when considered in detail, is distinctly unfavorable. From the second to the third quarter there was a decrease of about 25 per cent in earnings, but as the trade well understood that shipments had decreased by about this amount this decrease should not have been surprising. The particularly unfavorable feature was that earnings were no larger in September than in July, whereas shipments were at least one-third larger. Thus the earnings per ton decreased considerably, when with larger operations the cost of production should have decreased, making it plain that there was a large decrease in realized prices. Earnings were $30,718,415 in the third quarter against $41,381,039 in the second quarter.

The setting up of district steel prices, following the abolition of the Pittsburgh Plus system, meant reductions in prices in most steel commodities in many districts, alike to the Steel Corp. and to the independents, but those reductions did not affect September shipments to any great extent, hence there is a new unfavorable influence upon earnings, to be felt in the present quarter.

This means that profits are unsatisfactory and confirms claims that prices of some products have been too low, particularly shapes and plates in Pittsburgh and Eastern territory. The condition may cause mills to be more chary about naming competitive prices and may possibly foster a rise in some lines.

There have been no steel price declines of any importance for more than a month past, except the reductions in district prices involved in the cutting out of the Pittsburgh Plus system, so that prices in the Pittsburgh district are substantially unchanged.

The heavy end of the freight car buying movement is now over, with the car shops moderately well provided with orders for a time, and with chances of a resumption of buying in a few weeks. Structural business has been running seasonally light, the bookings from January 1 to date making a favorable comparison with last year.

Pipe mills are running at not over 60 per cent, possibly at nearer 55 per cent. against a rate of 75 per cent or thereabouts in August.

PNEUMATIC DRILLING TEST ON NEW ACREAGE

LOS ANGELES, Cal., Nov. 1.—The Pneumatic Drilling Co. has acquired 240 acres on Sulphur Mountain near Santa Paula, Ventura County, adjoining the Pan American and Union Oil properties, and expects to drill a well soon after January 1. The company will use its pneumatic equipment, the invention of J. R. Wilson, president of the company, to demonstrate the capacity of its tools. The inventor claims for his apparatus the advantages of the rotary and cable tools combined, four air hammers performing the work of the cable tools while there is at the same time a continuous rotary movement.

Mr. Wilson claims to have solved the problem of caring for the pressure by carrying it up to the surface so that it passes off without difficulty.

LARGEST OIL BARGE

LOS ANGELES, Cal., Nov. 1.—Pan American Petroleum & Transport Co.'s No. 1, the largest harbor oil barge on the Pacific Coast, has been launched at the Los Angeles Ship Yards, the first of a fleet of such craft to be operated by Pan-American in fueling ships in the local harbor. It was built in the record time of 48 days from the laying of the keel, at an approximate cost of $100,000. It is of steel construction, 131 feet long, 51-foot beam, with a capacity of 72,000 bbls.

OPENS NEW OFFICE

Edwin Burhorn Co., engineers, contractors and manufacturers, of New York, have opened a Mid-Continent office at 805 Mayo Bldg., Tulsa, with Joseph S. Arbuckle as district manager. It is the plan of the company to introduce Burhorn all metal cooling towers in the Mid-Continent section, featuring the Burhorn Matola metal cooling surface and louvres which, it is said, should last at least 25 years without any painting or repairs.

WIRE ROPE DEMONSTRATION

James V. Ferguson of Williamsport, Pa., representing the Williamsport Wire Rope Co., recently demonstrated the operations of the wire rope making machine before the purchasing agents of Tulsa. Forty-two small wires were run into the machine, seven to the strand, and the strands merged into one complete line of one-eighth-inch measurement, which when completed, is generally used as a torpedo line. A buffet dinner was served by the Purchasing Agents Association and the Williamsport Wire Rope Co.

FORM NEW COMPANY

W. N. Durbin, former president, and R. I. Van Winkle, former secretary of the Anderson Foundry & Machine Co., associated with Joseph E. Hennings and Linfield Meyers, Anderson bankers, have incorporated the National Engineering & Equipment Co. of Anderson, Ind. They will specialize in power equipment and kindred lines, giving particular attention to oil engine powered plants for various purposes in the central western States, covering inland waterways, marine work, also the oil fields.

HUGHES TOOL CO. PRIZE WINNERS ARE ANNOUNCED

Announcement has been made by the Hughes Tool Co. of Houston, Texas, of the winners in its guessing contest. More than 150 contractors, superintendents, field men and others connected with the oil industry sent in answers in an effort to win one of the prizes. All winners in the contest were awarded prizes as follows:

First prize—23-jewel Howard watch, Paul R. Nagle, Wewoka, Okla.

Second prize—Automatic shot gun, Sam F. Patrick, Stroud, Okla.

Third prize—Leather traveling bag, Frank E. Brooks, Compton, Cal.; George H. Borchard, Long Beach, Cal. and George Pilegard, Long Beach, Cal.

Mr. Nagle guessed 59 names correctly; Mr. Patrick, 58; and the third prize winners, 57.

The fourth, fifth, and sixth prize-winners, who guessed 56, 55, and 54 names correctly, and who receive a solid gold Hughes simplex bit watch fob, follow:

Joseph Wood, Long Beach, Cal.; T. P. Rooter, Long Beach, Cal.; J. G. Walker, San Pedro, Cal.; E. H. Rehder, Long Beach, Cal.; E. E. Wolfe, Torrance, Cal.; F. S. Banks, Los Angeles, Cal.; O. P. Yowell, Long Beach, Cal.; K. Rasmussen, Long Beach, Cal.; Z. A. Dyer, Long Beach, Cal.; Guy Voshall, Long Beach, Cal.; G. A. Griffith, Compton, Cal.; George Gray, Long Beach, Cal.; C. L. Brewster, Long Beach, Cal.; H. O. Shirley, Long Beach, Cal.; Jerome Davis, Long Beach, Cal.; Bill Clossen, Gardena, Cal.; Tom Bell, Whittier, Cal.; H. M. Paulsen, Long Beach, Cal.; W. L. Borough, Los Angeles, Cal.; F. R. Cooley, Los Angeles, Cal.; Charles Dore, Los Angeles, Cal.; C. M. Gravett, Long Beach, Cal.; Clayton Severns, Torrance, Cal.; E. C. McCarthy, Wilmington, Cal.; Joe Dyer, Wilmington, Cal.; R. A. Magor, Long Beach, Cal.; C. V. White, Compton, Cal.; C. C. Kifer, Long Beach, Cal.; Gus Pruett, Los Angeles, Cal.; F. B. Jemison, Sawtelle, Cal.; Frank Jennings, Wilmington, Cal.; Ulric J. Blais, Los Angeles, Cal.; E. E. Hollis, Torrance, Cal.; Frank Buens, Wilmington, Cal.; and R. G. Frame, Torrance, Cal.; A. Pilegard, Long Beach, Cal.

Seventh prize—gold watch chain—50 names correct—O. D. Jones, Long Beach, Cal.

Eighth prize—gold pocket pencil—48 names correct—Bill Taylor, Wewoka, Okla.; J. O. Kribbs, Tulsa, Okla.; R. J. Andrew, Wewoka, Okla.

The correct list of names in the contest follows:

1, Joe Silvas; 2, Frank Kitelinger; 3, W. S. Kyle; 4, Harry Turner; 5, Ben Harris; 6, J. E. Chandler; 7, J. R. Taylor; 8, H. G. Hudson; 10, E. L. Sweetin; 11, George Acuff; 12, H. J. Tremble; 13, Paul Nagle; 14, Dave Walker; 15, Doc Crandall; 16, Hal Hughes; 17, M. O. Danciger; 18, George Nix; 20, Driller Brown; 21, S. Charlehart; 22, T. M. Hardesty; 23, Charles Keyes; 24, Cy Parsons; 25, Dutch Kemnitz; 27, D. J. Wade; 28, Claud Scott; 29, Tom Jordan; 30, Ed Gladieux; 31, J. D. Stewart; 32, C. E. Columbia; 33, Floyd Acord; 34, L. R. (Coon) Peveto; 35, Slim Hobson; 36, R. B. Conroy; 37, Charles Engelfield; 38, Tom Bell; 39, William H. Kohler; 40, W. A. Smith; 41, H. A. Nutt; 42, J. C. Caddell; 43, Driller Scales; 44, Wygal; 45, Ben Hollingsworth; 46, Broadbend; 47, C. P. Woods; 48, O. L. Riley; 49, P. C. Perry; 50, Mick Murphy; 51, Red Morter; 52, Ace Michaels; 53, Vern Brown; 54, Jim Head; 58, R. L. Fischel; 60, Shorty Wright; 61, Edwards; 62, Rogers; 63, A. H. (Warpie) Brown; 64, Dave Caruthers; 65, Red Hardison; 66, Hampton; 67, Dyer; 68, Whitner; 70, Wallace Taylor; 71, Gus Pruett; 72, F. L. Wilson; 73, A. T. Stair.

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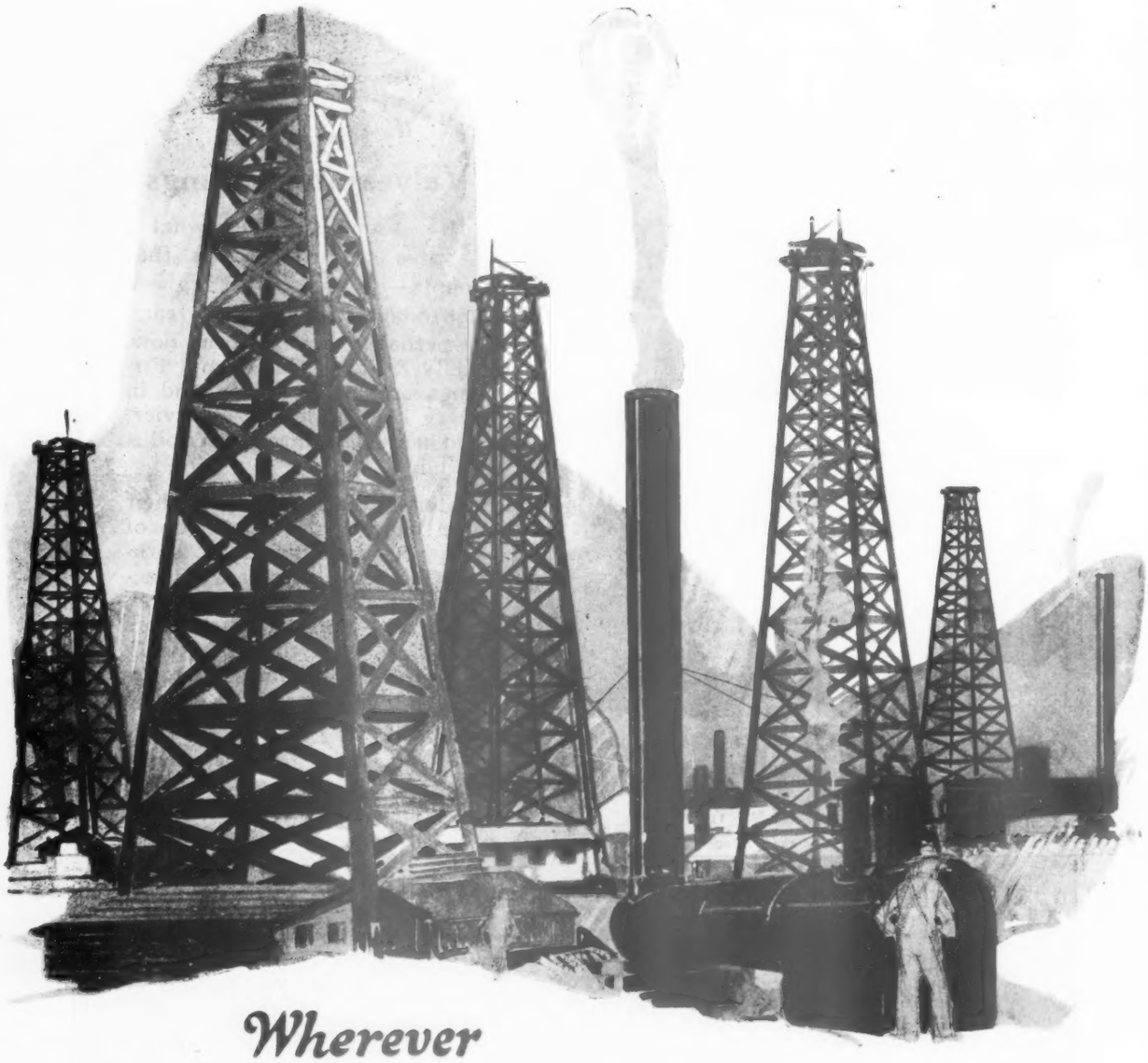

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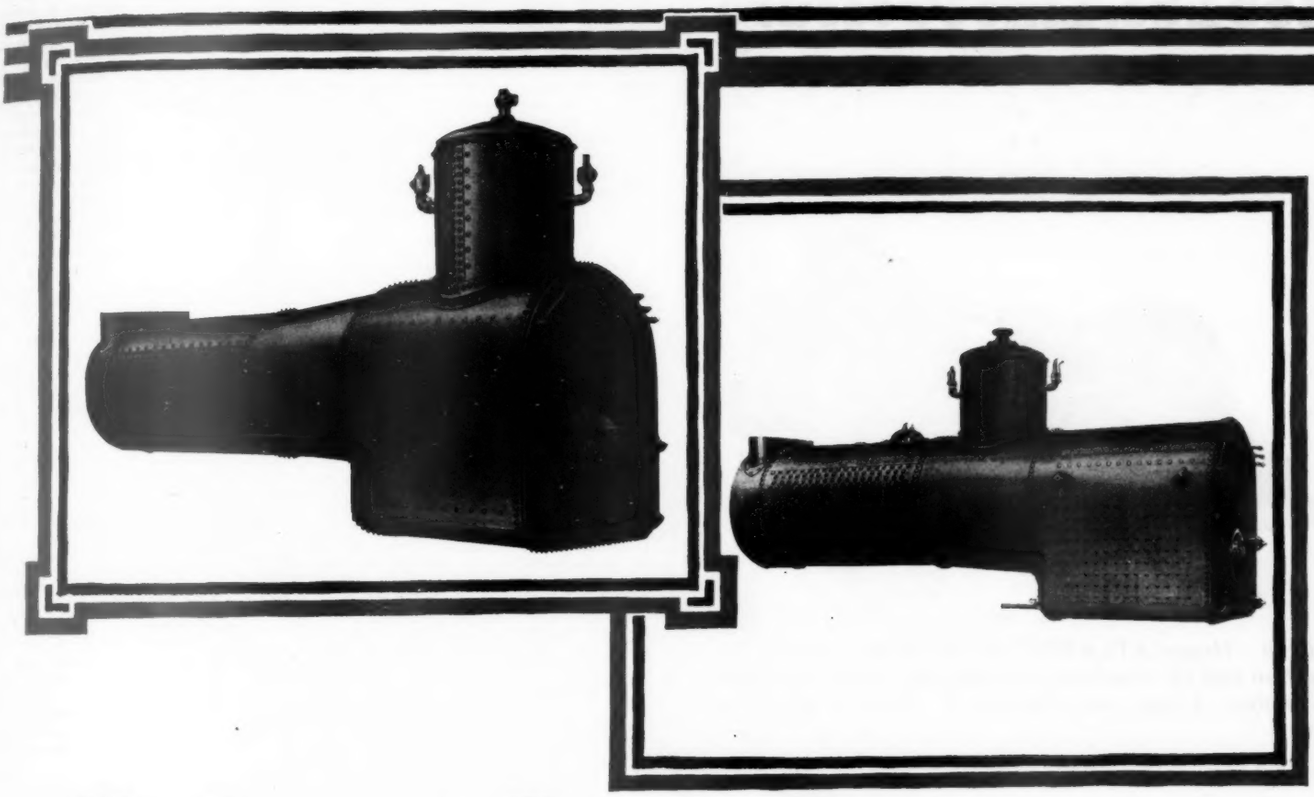
BOILERS



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Lucey Oil Field Boilers are recognized as the leaders. They are noted for their steaming qualities and low fuel consumption.

They are built in strict accordance with the rules of the Boiler Construction Code of the American Society of Mechanical Engineers, and carry stamping in accordance with this Code.

All materials conform to the specifications approved by the American Society for Testing Materials.

All plates are drilled and shaped to standard dies and templates, and the flanging and riveting is done by hydraulic machinery.

All operations during construction and test are under the observation of a licensed inspector not in our employ, and a certificate of inspection is furnished with each A. S. M. E. boiler.

Built for either 125 or 150 pounds working pressure, and in sizes from 40 to 100 H.P. in either locomotive or tubular type.

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1186 Barrels an Hour

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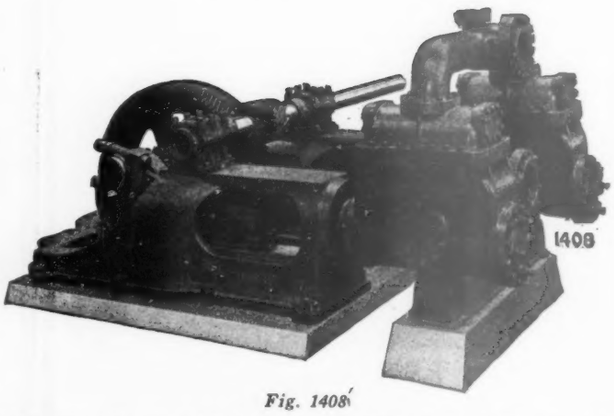

Fig. 1408

10x18" Heavy ATLANTIC TYPE Power Pump, 12" suction and 10" discharge connections. Cast Iron Fluid Cylinders, Liners and Pistons, 5" Brass Valves and Seats.

For twenty years, a popular type of pump in refining and pipe line work for medium pressure work. Solidly built with generous bearings and shafts, and broad faced, quiet running herringbone gears.

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AWAITING APPLICATION OF STANDARDIZATION

(Continued from Page 62)

institute orders with the manufacturers' orders. To reimburse the institute for this outlay, it is planned to charge $5 for each inspection per gauge, of which $1 will be retained by the custodian for making the test and issuing the test report called for by the specifications. This provides a net return of $4 per inspection to the institute. It is estimated the institute will be reimbursed for its cost within a period of three years on this basis. It will probably be some little time before these gauges are ready, but the definite date will be announced later. Immediately they are aavilable, the standards adopted will be put into effect, and in the meantime companies or individuals desiring to, may place their orders in advance with the adopted specifications.

I. & H. Joint

Submitted with the committee's report to the institute directors was a brief history of the development of the I. & H. joint written by Louis Brown, president of the Oil Well Supply Co. This joint was adopted with a few modifications as the standard joint. He points out that while at one time in the manufacture of cable drilling tools there were between 250 and 300 different sizes of joints, with the adoption of the I. & H. standard and with all manufacturers gradually working together, that number will be reduced to 11.

"In the year 1873," Mr. Brown stated, "L. N. Ireland opened a small shop at Petrolia, Butler County, Pennsylvania, for the manufacture of tools for drilling oil wells. He removed to Pittsburgh in 1876 and there carried on the business until 1881 when he was joined by J. E. Hughes, forming a partnership known as Ireland & Hughes. Every driller in those days had his own idea as to tool joints, with the result that there were no standards. It was soon found, however, that drilling tools for oil wells should be interchangeable and as a result of this demand Ireland & Hughes developed a joint with a 7-thread, flat thread, tapered 3 inches to the foot, and as Ireland & Hughes at that time were quite a factor in the manufacture of drilling tools many contractors were buying their goods, and the I. & H. joint, named after the firm, became quite widely used. The plant of Ireland & Hughes was located at the corner of Twenty-first Street and A. V. R. R. in the city of Pittsburgh ,and on January 1, 1890, the Oil Well Supply Co. started a machine and blacksmith shop directly across the street from the shop of Ireland & Hughes. As the I. & H. joint at that time had become quite popular the Oil Well Supply Co. adopted the same as its standard, and as the Oil Well Supply Co. had branches throughout the oil and gas fields with a large business in the manufacture and sale of drilling tools, the use of this joint spread rapidly. About the year 1900 the Oil Well Supply Co. purchased the entire machine and blacksmith shops, together with templates, etc., of Ireland & Hughes, who at that time retired from business, and the joint became known as the Oil Well Supply Co. joint, as well as the I. & H. joint, the two being interchangeable."

FEARS OIL COMPETITION WILL RUIN COAL INDUSTRY

(Continued from Page 32)

tonnage of vessels now building in the world which are to be fitted with internal combustion engines, amounts to 694,712, while the tonnage of steam vessels under construction is 1,801,716 tons. These figures include 55 motor-ships, each of between 5,000 and 10,000 tons, four between 10,000 and 15,000 tons, and seven between 15,000 and 22,000 tons. Of the 154 motor merchant vessels under construction in the world, 55 are building in Great Britain and Ireland and 99 in other countries.

Unless Great Britain keeps pace with the rest of the world in the struggle to get power at the cheapest possible cost, she can, therefore, bid good-bye to all thought of continued commercial supremacy. Her coal trade will go from bad to worse.

Today in round figures, taking averages for a number of years, we raise 260,000,000 tons of coal per annum, of which approximately 65,000,000 tons is sold abroad and to ocean-going and coasting steamers, whilst 195,000,000 tons is consumed at home. Of this, in normal times, about 40,000,000 tons is carbonized, 50 per cent in gas works and 50 per cent in coke ovens, leaving 145,000,000 tons, which is burnt as raw coal.

This is a crude and wasteful processing, since it is now abundantly proved that coal can be treated by scientific methods of carbonization quite different from the existing high temperature methods of the gas works and the coke oven, so as to obtain large quantities of high-grade gas motor spirit and other liquid fuel, especially for Diesel engines, sulphate of ammonia for the cultivation of the soil, and residual smokeless fuel, which is infinitely more efficient than raw coal. It is now being recognized everywhere, as the result of the work of almost countless pioneers extending back over 75 yars, that to burn raw coal at all is a crime, and in no country in the world does this apply more than in Great Britain, since we have no petroleum oil, only about 1,000,000 horsepower of potential inland water-power, and do not make anything like adequate use of our soil for food production, in spite of the fact that we possess one of the most fertile and well-watered of all countries.

Depend on Foreign Countries for Oil

Today we are said to be paying to foreign countries abroad something like £45,000,000 per annum for motor spirit and oil fuels generally, and about 200,000,000 gallons of motor spirit alone is imported every year. Eighty-five per cent of the petroleum wells of the world are controlled by foreign financiers, and the whole British Empire only controls about 5 per cent of the total oil production and produces 2½ per cent, while the United States produced 65 per cent and controls most of the Mexican oil fields as well.

From the point of view of Great Britain, the position in the first place is both serious financially and dangerous from the point of view of national safety. We are being bled by foreign countries in the shape of high prices of motor spirit and petroleum to such an extent that the whole motor industry of Great Britain is crippled and our transport charges are far too high. Then from a military and naval point of view we are dependent almost entirely on foreign countries for petrol for aircraft and motor transport, including artillery and tanks, and for liquid fuel for the Navy. Our communications with sources of supply thousands of miles away can be cut off by submarine and aircraft, and steps against this necessitate a formidable outlay of men and money and material. Still more serious—and this is not yet realized even by most engineers—is that the condensing steam engine and the turbine are doomed, and almost within the next few years most of the power of the world will be generated by the internal combustion heavy oil (Diesel or semi-Diesel) engine. Already the steam unit is being rapidly displaced for marine work, and the same will happen on land, for the single reason that the heavy oil engine is infinitely more efficient. Added to this is the serious fact that the oil supply of the world is failing fast, and the most of the oil required will have to come in the near future from two sources—the carbonization of shale and of oil. The United States Government realizes this to the full, and has already secured over 60,000 square miles of rich shale oil lands in Colorado, Utah, and Wyoming, whilst the French Government is making the most determined and successful efforts to render its country independent of all foreign liquid oil.

Carbonizing Raw Coal

For Great Britain not only is it essential to tackle the problem for all these reasons, but even more important is it that we can at the same time reduce un-

(Continued on Page 108)

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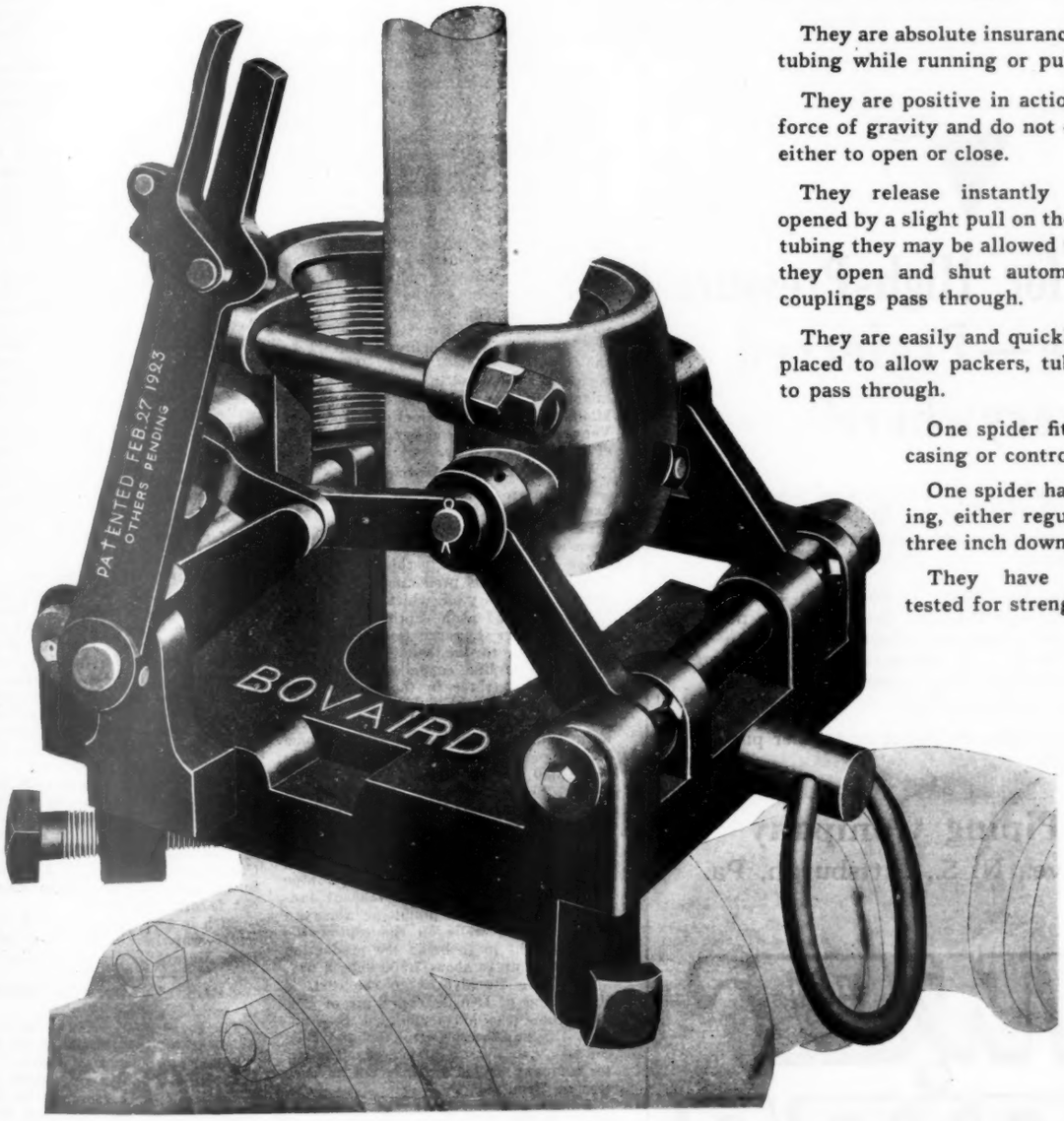
For Safety and Speed on Your Tubing Jobs



They are absolute insurance against dropping tubing while running or pulling.

They are positive in action as they close by force of gravity and do not depend on springs, either to open or close.

They release instantly and are quickly opened by a slight pull on the lever. In pulling tubing they may be allowed to remain closed as they open and shut automatically when the couplings pass through.

They are easily and quickly removed and replaced to allow packers, tubing catchers, etc., to pass through.

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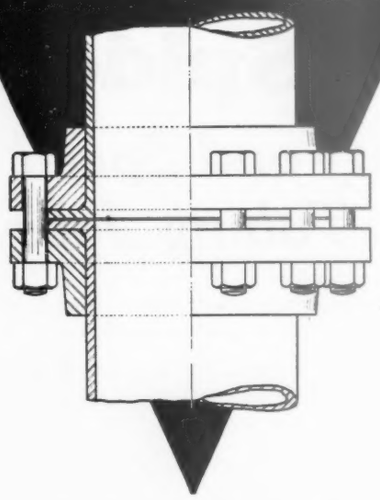

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NORTH VENEZUELA DEVELOPMENTS FROM MARACAIBO STARTS TO COAST

By Michael O'Shaughnessy

To the north of the district of Miranda is the Gulf of Venezuela, and to the east, the Maracaibo Straits. On the latter shore opposite Maracaibo City, is the base terminal of the Standard (New Jersey) at Punta de Lieva and the pipe line terminus and base terminal of the British Controlled Oilfields, Ltd., at Alta Garcia. The western third of this district is owned by the Standard (New Jersey) the eastern third, by the Maracaibo Oil Exploration and New England Oil; and the southern third, by the Orinoco (Pure Oil), Maracaibo Exploration, Caribbean Petroleum, Pantepec, Venezuela de Petroleo and Gulf. The Marine Zone strip is owned by Creole Gulf and Lago, and the bed of the Straits by Lago. Three deep tests have been drilled in this district without making a well.

Six kilometers over the boundary of the district of Mirando, in the district of Buchivacoa, State of Falcon, is the El Mene Field of the B. C. O., Ltd., which owns the concession on the entire district, some 3,000 square miles, running 50 years from 1907, and does not call for any part of this acreage to be returned to the National Reserve. This extensive concession is divided into three areas: the western is being developed by the company itself; the Central is under drilling contract to a British Syndicate, obligated to drill three wells, who have in turn given the Sinclair Consolidated an option on a sub-drilling contract; and the Eastern section is under drilling contract to the Standard (New Jersey). The latter company has moved in at Dabajura, 107 kilometers from Punta de Lieva and 10 kilometers from the Northern coast of Venezuela, and will commence the drilling of four wells at once.

El Mene District

Previous to March, 1923, two failures had been drilled in the Eastern area and seven at El Mene. This field spreads out from well No. 15 to the westward in the shape of a fan. Within this proven area there are 21 wells producing about 3,500 bbls. of 36 gravity oil, which comes mainly from a sand at a depth of 970 feet. On September 1, seven wells had been drilled down to the sand awaiting additional pipe line capacity; four wells were drilling, three in the proven zone and one, a deep test, 8 kilometers south.

Substantial camp buildings with the usual equipment, housing a staff of some 50 foreigners and 500 peons, is built upon a hill 350 feet above sea level. A small topping plant is operated. The oil is run as fast as produced, through a 4-inch pipe line, 54 kilometers to Alta Gracia where it is taken by Caribbean tankers. A 6-inch pipe line is strung and is being rapidly connected up for a second pipe line, which will be completed about January 1, when present producing wells can flow full, and wells on the top of the sand brought in to bring the production of the field up to about 7,500 bbls. a day.

Adjoining Buchivacoa to the east, is the district of Democracia, State of Falcon, where the Maracaibo Oil Exploration, the Caribbean Petroleum and Beacon-Sun, own extensive acreage. The latter company drilled an unsuccessful deep test at Urumaco.

Further east, at the foot of Paraguana Peninsula, is the district of Colina, concession on the whole of which is owned by the Standard (New Jersey) who are drilling on the shore of the Caribbean Sea near La Vela de Coro.

Paraguana Peninsula

Immediately to the west of this concession, an arm of land, the Paraguana Peninsula shoots out for 65 miles to the north, into the Caribbean Sea. The western is the lee shore, as the prevailing winds are from the east. There are several bays on this coast line affording safe anchorage for ocean-going tankers. The Standard (New Jersey), Gulf, Lago, British Controlled, Pantepec, and Caribbean Petroleum have acquired sites on this shore for ocean-loading terminals. Here the broad beam, shallow draft, lake tankers will tranship oil to ocean-going tankers.

In the Straits of Maracaibo there are two sand bars running across the path of navigation to and from the lake. At low stage there is 17 feet of water on the first and 12 feet on the second, obviously barring vessels of greater than 11½ feet draft. That these obstacles are not preventing or even retarding the development of the oil fields in the Maracaibo Basin is evidenced by the fact that all companies that have production are either already marketing it or preparing to do so.

"Dredging of the Bar"

The "dredging of the bar" is still an academic question, one of unending argument and various opinion. The actual present situation is that there are not available reliable facts on which to predicate an intelligent opinion of even the desirability of such an undertaking. The determining factor will be one of cost per barrel of moving the oil to market; whether by the present method, by pipe lines to Paraguana or elsewhere, or by dredging the bar to give deep draft tankers access to lake loading racks. The most economical is the one likely to be permanently adopted when all of the facts are at hand.

Adjoining the Colina concession of the Standard (New Jersey) and again to the east, are the districts of Zamora and Acosta, State of Falcon, the concession on the whole of which, some 1,800 square miles, is owned by the North Venezuelan Petroleum Co., Ltd. One failure has been drilled on the Acosta concession and two wells are drilling.

This development is the farthest east until we reach the State of Monagas on the Gulf of Paria, an arm of the Atlantic Ocean. Geological parties recently, in the intervening States of Guarico and Anzoategui, reported oil seepages and other evidences of possible petroleum accumulations.

Drilling in Monagas

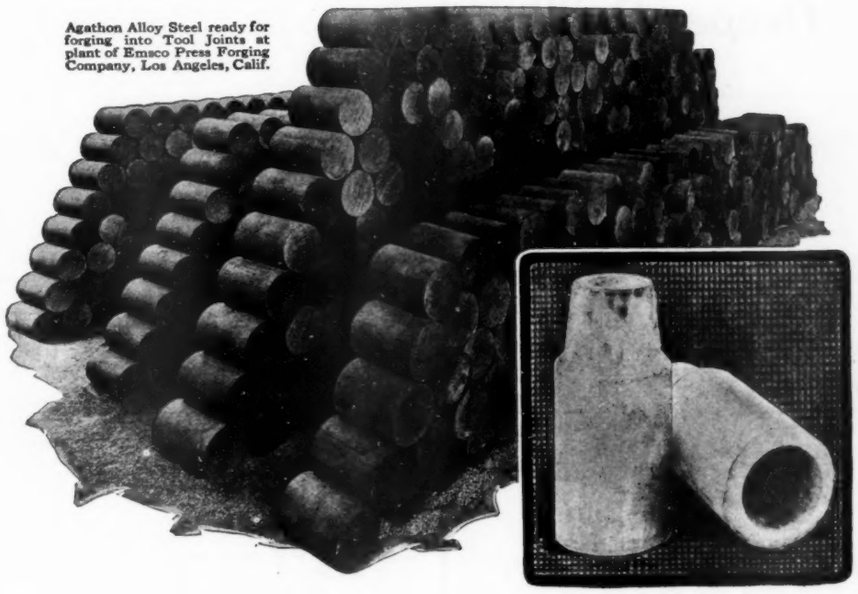
In the State of Monagas, north of Maturin, the Standard (New Jersey) has drilled one failure and one well good for around 600 bbls. of heavy oil, at a depth of 900 feet. This well is being deepened. The Standard (New Jersey), Lago, Caribbean Petroleum and Pantepec have large holdings in this section. The Maracaibo Oil Exploration has four parcels aggregating about 500 hectares, one of which is near the Standard well.

North of this development in the State of Sucre, is the Bermudez Asphalt lake of the General Asphalt Co. Some unsuccessful prospecting for oil was done here by this company years ago. The British Controlled has also drilled several holes in the delta of the Orinoco River without favorable results.

Such is a rough outline of development under way in northern Venezuela from Lake Maracaibo to the Atlantic Ocean.

RUSSIAN OIL FOR TURKEY

The board of directors of the Petroleum Syndicate of the Russian Soviet and the English joint stock company, "Arcos," have entered into an agreement for the formation of a corporation for the sale of products of the Petroleum Syndicate on Turkish territory. In order to carry out its purposes, the new corporation will have the right to ship from Soviet ports crude and refined petroleum products, in cans and in tanks, to open warehouses for storing oil products, to establish factories for the manufacture of cans and to make all other installations connected with the sale of oil products on the above territory. The company is to have a capital stock of 50,000 pounds sterling, contributed in equal shares by the Petroleum Syndicate and Arcos. The head office of the corporation is to be in Moscow. The term of the corporation extends to January 1, 1928. The Chief of the Russian Concessions Committee has approved the agreement.



Agathon Alloy Steel ready for forging into Tool Joints at plant of Emsco Press Forging Company, Los Angeles, Calif.

And For Tool Joints, Too

A FEW years ago Agathon Alloy Steels were little known in the oil-drilling industry. Finally these tough, super-steels were adopted for drill bits. Their highly successful performance in this service has resulted in their general adoption for Tool Joints, Jars and other parts of oil-drilling equipment subjected to great wear, stress or strain. If you are not acquainted with Agathon Alloy Steels, send for our interesting booklet. If you have a steel problem, our metallurgists will help you solve it free of charge. Write us.

AGATHON STEELS

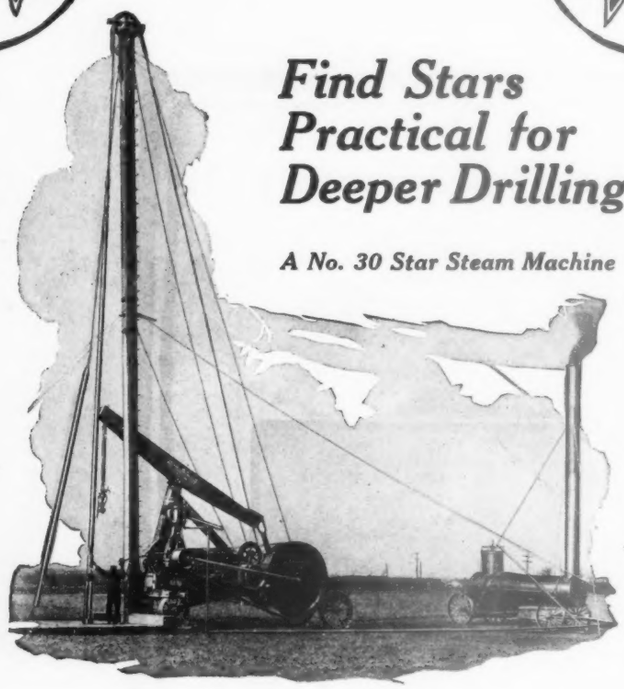
THE CENTRAL STEEL COMPANY, Massillon, Ohio

Swetland Bldg., Cleveland
Aeolian Bldg., New York
Book Bldg., Detroit
University Block, Syracuse
Peoples Gas Bldg., Chicago
Widener Bldg., Philadelphia

AGATHON ALLOY STEELS

Find Stars Practical for Deeper Drilling

A No. 30 Star Steam Machine



"We drilled the Herrington Well at Mineral Wells 2600 feet in 26 days with your No. 30 Star machine. This, as well as fifty other wells, were drilled for the Lone Star Co. They have assured us we were drilling wells for them at a figure that had cost them to build the rig for standard tools."

—Saving, Saving & Flint, Humboldt, Kansas.

"We have reached a depth of 4325 feet with our No. 30 Star Machine and it is giving the best of results."

—The Record Oil Company, Calgary Alberta, Canada.

"We have drilled one well 2600 feet with a No. 30 Star and the machine handled this job mighty satisfactorily. Most of our Stars are equipped with calf reels so we have no trouble in handling any amount of casing."

—A. C. Mendenhall—Mendenhall & Winkler, Chanute, Kansas.

"We have just drilled 2900 feet with our No. 30 Star machine. The well was completed in fifty calendar days."

—Palo Pinto Oil Company, Strawn, Texas.

Everyday, drillers are finding that Stars easily handle jobs they once thought required a Standard rig. No more money spent on Derrick timber costs nor rig builders wages—valuable time and money saved in moving and rigging up—these are big reasons why you should consider Star machines for future drilling.

THE STAR DRILLING MACHINE COMPANY

Akron, Ohio

Branches at Chanute, Kansas; Long Beach, Calif; Portland, Oregon.

Export Office—2 Rector Street, New York City.

CENTRAL WEST

(Continued from Page 54)

a short period, and Gray and others are drilling No. 3 John Wirts, Section 30.

Illinois Field

The best completion reported for the week from the Illinois Field, was the Ohio Oil Co.'s No. 21, located 1,200 feet from the south line and 800 feet from the east line of the W. H. Rogers farm, Section 17, Bridgeport Township, Lawrence County, which showed a flush of 43 bbls. from what is supposed to be the Buchanan sand at a depth of 1,320 feet. In Dennison Township, same county, Curtis and others have a rig in for a test on the H. A. Seed 10 acres, Section 21.

In Casey Township, Clark County, R. G. Holmes and others' second well on the southeast corner of the Charles Lowe farm, Section 25, pumped 20 bbls. from a depth of 606 feet. Chrysler and others' No. 1 on the southeast corner of the R. E. Stratton, Section 26, was drilled to a depth of 1,600 feet and dry. Boyd, Eaton and others are drilling No. 1 John Laigner farm, Section 24. Gilette and others are drilling No. 1 on the W. Reisinger farm, Section 25, and R. G. Holmes and others are drilling No. 3 Charles Lowe farm, same section.

In Martinsville Township, Clark County, the Ohio Oil Co. is drilling No. 3 A. W. Covalt farm, Section 31. In Neoga Township, Cumberland County, C. Karnes is drilling a wildcat well on the F. Granchan farm, Section 8.

In Honey Creek Township, Crawford County, Craig, Lowrie and others' No. 16 on the northeast corner of the Charles J. Weger farm, Section 14, pumped 5 bbls. at 1,006 feet.

In Sandoval Township, Marion County, the Southwestern Oil & Gas Co. abandoned No. 9 A. E. Benoist farm, Section 8. The Fox-Alsbach Oil Corp. is drilling No. 1 on the A. F. Benoist farm, Section 4.

A wildcat venture is being made by George Danvers on the M. Cunningham farm, Sction 23, Smallwood Township, Jasper County.

Central Ohio

The Central Ohio Field made an excellent showing for the week with 25 wells reported completed, of which four were oil wells, with a flush production of 105 bbls., 6 dry holes and 15 gas wells, 27 new locations for rigs staked out and building and the starting of 20 wells drilling.

In Vermillion Township, Ashland County, W. E. Hawk and others drilled in a dry hole in a test on the Clara Endinger farm, Section 26. In Mohican Township, the Logan Gas Co., located a second test on the G. W. Black 40 acres, Section 34. In Hanover Township, the company staked a location for No. 2 on the Howard Bookman 70 acres, Section 16, and for No. 1 on the J. W. Sellers 40 acres, Section 21. In Greene Township, same county, same company drilled in a good gas well at a test on the Lewis Beck farm, Section 28, and Hulse & Koontz are starting a test on the A. H. McClelland 129 acres, Section 4, Orange Township, same county.

Medina County

In York Township, Medina County, the Ohio Fuel Gas Co. hit a rich gas well at a test on the Elizabeth Mayer farm, Section 6, and the Logan Gas Co. got a small gasser in a test on the H. G. Wolf farm, Section 11, and started the drill at its No. 2 on the E. M. Brintall, Section 22.

In Guilford Township, the Central Ohio Gas Co. drilled in a light gas well at a test on the J. and M. Winkle farm, Section 5.

In Montville Township, the Ohio Fuel Gas Co. got a nice gas well at a test on the G. W. Roshon farm, Lot 43. In Brunswick Township, the same company staked out for a test on the Gabriel Kovach & Co. farm, Lot 34.

In Harrisville Township, the Logan Gas Co. has started the drill at No. 1 J. E. Zimmerman farm, Lot 15, and in Litchfield Township, made a location for No. 1 on the Theodore Henry 62 acres, Lot 55.

Lorain County

In Columbia Township, Lorain County, the Ohio Fuel Gas Co. will do some test work, having made a location for a test on the C. F. Ruder 108 acres, Section 13 and for No. 1 on the Carl & Emanuel Herold 160 acres, Section 29.

In Grafton Township, the East Ohio Gas Co. has started drilling a test on the Robert Nesbit farm, Lot 77 and the Ohio Fuel gas Co., located a test on the George Mole 122 acres, Lot 13.

Wayne County

Cannan Township is the active spot of Wayne County at this time and is showing oil in commercial quantities as well as natural gas. Baker Brothers drilled in and shot No. 2 on the S. Whitmore farm, Section 9, with a result that the well did 40 bbls. of oil and approximately 1,000,000 feet of gas.

In the same township, Arthur & Mills' second well on the F. A. and M. Snell 25 acres, Section 20, shows for a good gas well as well as a good showing of oil at a depth of 3,200 feet. H. S. Cameron's No. 2 J. M. Wiles farm, showed for 500,000 feet at 3,250 feet. Daugherty Brothers' No. 1 S. W. Hewit farm, Section 24, on a 27-acre tract, shows for an average gas producer, and they are getting in a rig for a test on the Yoder 14 acres, same section. Arthur & Mills' No. 3 on the E. and G. Myers farm, Section 29, is a fair gas well with a good showing of oil.

In the same township, the Ohio Fuel Gas Co.'s No. 1 S. L. Whonsettler, Section 20, is showing for 20 bbls. at 3,300 feet, while No. 1 on the S. Whonsettler, Section 16, is reported to be showing as good. This company is drilling No. 1 Clara L. Sell farm, Section 15. The Logan Gas Co.'s No. 1 on the E. G. Klinker, Section 15, is showing for 25 bbls. at 3,300 feet, while No. 2 on the V. C. Bowman, Section 5, is an exceptionally good gasser. This company has made a location for No. 1 on the A. B. Fouch 20 acres, Section 24, and for No. 2 on the J. Kissinger 100 acres, Section 9. The Globe Oil & Gas Co. is drilling No. 1 on the Gail Betz 10 acres, Section 16. Butler Brothers are drilling No. 3 Daniel Wiles 40 acres, Section 21. Central Ohio Gas Co. staked a location for a test on the C. Miller 54 acres, Section 24, and the East Ohio Gas Co. located a test on the C. Sells 82 acres, Section 24.

In Plain Township, Wayne County, the Logan Gas Co. drilled in dry holes in No. 2 J. W. Horn farm, Section 18; No. 1 William Beard farm, same section, and No. 1 E. Eley farm, Section 25. In Milton Township, the East Ohio Gas Co. has a location for a test on the C. Zeigler 112 acres, Section 22.

Holmes County

In Monroe Township, Holmes County, the Central Ohio Gas Co. brought in a nice gas well at a test on the U. S. Davenport, 140 acres, Section 5, and started a derrick for a second test on the same farm. Same company is drilling No. 1 W. A. Smith farm, Section 4. Ohio Fuel Gas Co., is drilling No. 3 Charles Barnes farm, Section 8.

In the same township, the Rocky River Development Co. is drilling No. 1 on the W. R. Parsons 60 acres, Section 5, and No. 4 on the C. C. Jarvis 97 acres, Section 11. East Ohio Gas Co. made locations for No. 2 M. G. Bird 50 acres, Section 8; Nos. 2 and 3 C. M. Shanks 149 acres, Section 10. No. 1 Welcome Church 4-acre lot, Section 10, on the Albert R. Mackey 11 acres, Section 5.

In Hardy Township, the East Ohio Gas Co. made locations for No. 2 on the S. C. Sterling 100 acres, Section 26, and No. 1 on the Harvey and Helen Bell 100 acres, Section 29.

Jackson County

In Coal Township, Jackson County, the Ohio Fuel Supply Co. drilled a good gas well in a test on the Dan D. Evans farm, Section 3, and a dry hole at a test on the Edward Townsend farm, Section 36. Ohio Fuel Supply Co. made a location for a second test on the L. V. Reed 185 acres, Section 34.

In Franklin Township, the Logan Gas Co. is drilling a test on the M. L.Kinnon farm, Section 12, and the Ohio Fuel Supply Co. is drilling a test on the S.

Longer Life

IN oil field hauling, where trucks lead a hard life, GMC stamina stands up and stands out.

GMC Trucks outlast and get along with minimum attention and repair because GMC design reduces wear and tear.

The GMC Two Range Transmission which provides an extra power speed for heavy pulling saves strain on the engine, clutch, transmission and rear axle.

Then there is pressure lubrication of GMC engine bearings and surfaces which reduces engine wear.

And every GMC part wears more slowly because it is designed over-strength.

Finally, GMC is designed so that its vitality can be renewed when wear finally occurs. Every wearing part is easily replaceable. Even cylinder walls can be removed and renewed in a few hours.

GMC'S will go longer to make your money go farther. Ask for a catalog.

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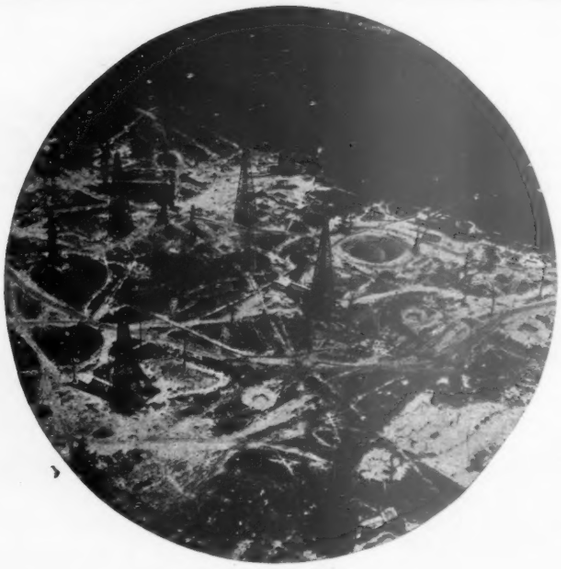

For Working Barrels

STEADY production—always—is what the oil operator gets when he uses Atlas Valve Balls in his Working Barrel Valves. No expensive delays, frequent pulling and replacements when they are on your pay-roll.

Month after month, no matter what the demand, they keep going unfailingly. Made of chrome alloy steel, uniformly hardened throughout, correct in sphericity to within ½ of 1/10,000 inch, are qualities which guard against failure, insure long life and trouble-free performance. Their backbone, and dollar and cents value in keeping the wheels going have made them the choice of leading producers.

You can get Atlas Valve Balls for Working Barrel Valves at your supplier. If he hasn't them in stock just write direct to us.

Atlas Ball Company
Glenwood Ave. at Fourth St.
Philadelphia, Pa.

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In Columbia Township, Lorain County, Supply Co. is drilling a test on the

Cherrington farm, Section 35, and No. 1 on the Matilda Mercer, Section 14.

Athens County

In Carthage Township, Athens County, the Bradford Oil & Gas Co.'s No. 7 on the E. Dunlavey farm, Section 5, produced 750,000 feet from the Keener sand at 1,258 feet. The Logan Gas Co. is drilling No. 3 M. Kinnon farm, Section 31. H. M. Waldron and others are drilling No. 1 on the Kate Evans 37 acres, Section 3. The Ohio Fuel Gas Co. made a location for No. 2 on the Oscar Clark 163 acres, Section 6, and for No. 1 on the Union Trust Co.'s 90 acres, Section 4.

In Rome Township, Harry W. Leeper and others are drilling No. 2 on the J. C. Prent, Section 23. Pittsburgh Gas Co. is drilling No. 2 Thomas McGraw, Section 23 and the Rice Oil & Gas Co. is drilling No. 4 on the W. B. Rice farm.

In Waterloo Township, the Logan Gas Co. is drilling No. 2 S. J. Lowery, Section 1.

In York Township, Stevens and others ared rilling No. 3 on the Anet Heire farm, Section 35.

Other Counties

In Sutton Township, Meigs County, unknown parties drilled a gas well on the C. W. Cornell farm, of 35 acres, Section 20.

In Strongville Township, Cuyahoga County, the East Ohio Gas Co. is working at a second test on the T. Francis 47 acres, Lot 97.

In Newcastle Township, Coshoction County, the Logan Gas Co. drilled a light gas well at No. 3 on the William Ringwalt farm, Section 15. The gas was found in the Berea sand at from 929 to 948 feet.

In Benton Township, Hocking County, the Logan Gas Co.'s No. 1 on the A. B. Lytle farm, Section 4, was a duster, and the same company is drilling No. 6 on the J. M. Mauk farm, Section 13.

In Clinton Township, Vinton County, the Ohio Fuel Gas Co. made a location for No. 5 on the E. C. Wortman 96 acres, Section 18.

THE OIL INDUSTRY'S INTEREST IN SALES

(Continued from Page 21)

all of their cars until they get into the hands of the ultimate users. They control their production and they control their dealers.

Selling Pressure

This surplus capacity for turning out car results in the manufacturer placing a tremendous "selling pressure" on his dealers to speed up their sales organizations. Under the spur of selling pressure from the factory and "sales resistance" in the dealer's territory there is almost constant temptation to cut prices, alter terms or in other ways change the method of doing business which long experience has not only demonstrated to be absolutely sound but absolutely essential, if the business is to be stable and the profit satisfactory.

In the last analysis, the financial stability of the entire automobile industry hinges upon this final transaction—the dealer's sale to the customer.

Nothing awoke the car manufacturers to the potential disaster that faced them, more than the realization that whereas for years the market was crowding their factories, today they have an aggregate factory capacity such that by operating at capacity they could quickly "swamp" their dealers—and bring chaotic conditions to the industry as a whole.

Uncontrolled Dealers

To put too great selling pressure on an uncontrolled dealer, or one who is not vitally related to the industry, or to load dealers beyond their capacity to either sell or carry, is to invite swift and sure disaster.

And yet, to a certain and dangerous degree, this is being done in the oil business today.

Surplus the Menace

We have a demonstrated producing capacity largely in excess of our actual needs, as is proven by the present surplus of some 400,000,000 bbls. of crude oil above ground. We have a demonstrated refining capacity far in excess of our needs, as is proven by gasoline stocks that have exceeded 1,600,000,000 gallons.

This surplus capacity, whether it be the capacity to produce crude oil or the capacity to refine it, is the greatest menace that faces the petroleum industry today, just as the greatest potential menace that faces the automobile industry is its surplus factory capacity that in the name of greater efficiency, cheaper production costs and cheaper cars is calling on the dealers for more sales. With both industries it is a case of "selling the goods"—both have surplus productive capacity.

Obviously one of the essentials of industrial stability is a reasonable balance between production and consumption. But the real economic problem begins when actual productive capacity outruns the generally accepted consumptive demands and passes the burden to the sales organization.

That the automobile industry has not yet solved all of its problems, is proven by the fact that regardless of manufacturing profit, the factory, with its excess productive capacity, is putting a selling pressure on the dealer organization that results in such increased expenses that the marketing of automobiles is done on an average margin of net profit that is dangerously narrow.

Year after year distribution costs of one kind and another have piled up, each cutting a little deeper into the margin on which the dealer operators—and each calling for a larger volume of sales, while the factory costs of cars have gone down, the costs of sales have gone up.

Increased Selling Cost

This problem of the rapidly increasing cost of doing business because so serious with the manufacturers of equipment for cars that the Automative Equipment Association cooperated with the Harvard Bureau of Business Research in analyzing the conditions surrounding their part of the industry. A typical case showed that while the wholesaler of equipment did a large volume of business his net profit was 1½ per cent of his net sales. No industry, as a whole, can be healthy when certain lines of activity within it function with little or no profit.

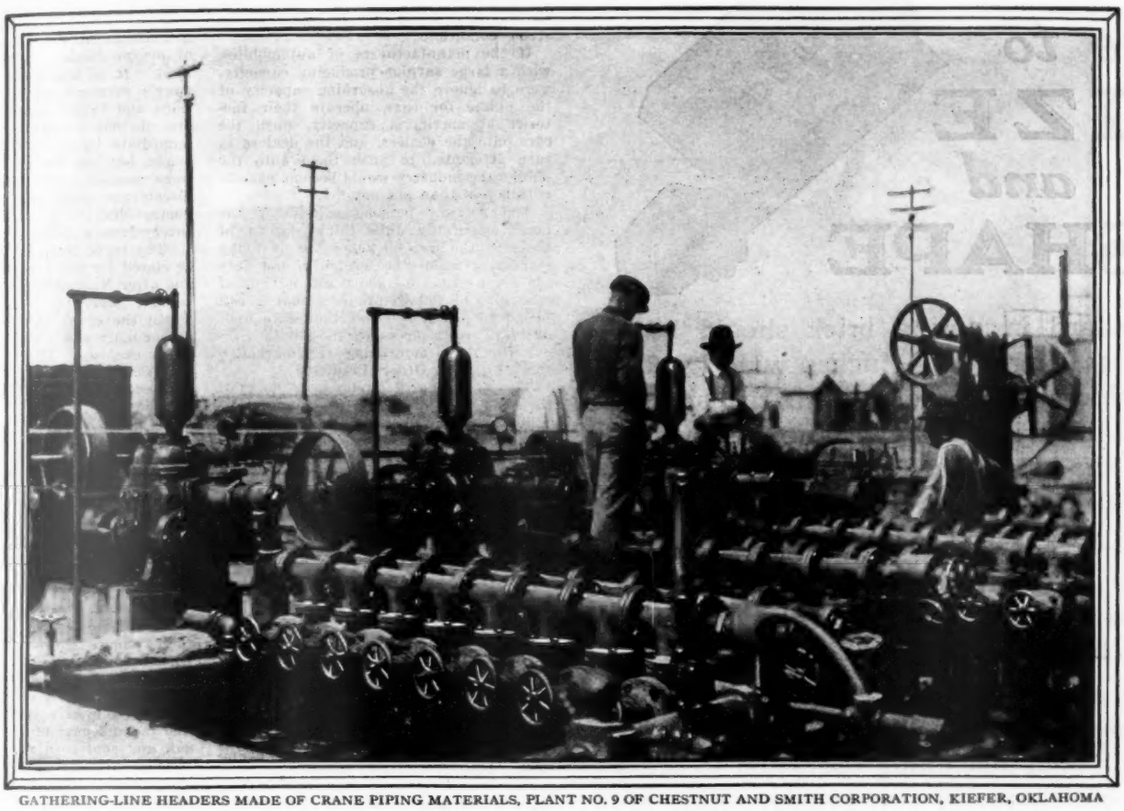
Disregarding the profit that the automobile factory makes the fact remains that the increasing cost of making sales has left the average dealer with little net profit for his labor.

The real problem facing the automobile industry is keeping the industry stable in the face of this situation in the distributing end. And it is obvious that unsupported, undirected and uncontrolled, any sales organization, operating under heavy pressure that entails heavy expense, will quickly get itself in such shape as will bring trouble to the entire industry when the margin of profit becomes too narrow. The investment in automobile factories, along with the factories making accessories, parts and tires is so gigantic that it would be folly to jeopardize that investment through failure to control the sales end, especially in view of the fact that the manufacturing end of the industry has been developed to the point that additional economies and lower prices call for more sales—and heavier selling pressure on the dealers.

Need for Control

Whether or not the old saying is true, that "the production of crude oil can't be controlled," the fact remains that if it isn't controlled or can't be controlled, then the industry must continue to absorb, from time to time, 50 or 100,000,000 bbls. or more of flush production. And with these floods of crude the market will continue to swing back and forth—just as it has for 65 years—occasionally being high enough to give the average producer a nice margin of profit, but far more frequently being so low as to make his existence highly precarious.

And certainly if the production of crude oil can't be controlled, that fact only emphasizes the necessity for the industry's having the control, within its own hands, of the marketing of its products—and for no other purpose than safeguarding the investment of billions of



GATHERING-LINE HEADERS MADE OF CRANE PIPING MATERIALS, PLANT NO. 9 OF CHESTNUT AND SMITH CORPORATION, KIEFER, OKLAHOMA

"FITTINGS THAT FIT" SAVE TIME AND MONEY ANYWHERE

The accuracy of form and dimension achieved in Crane piping materials speaks for itself in the installation pictured above. Here, regular Crane tees bolted together in rigid assembly, make the straight gathering-line headers which appear in the foreground.

True oil-tight headers cannot be made up of tees whose flange-faces are not exactly parallel and in line. Furthermore, if the fittings are badly machined and of doubtful dimensions, they cannot be depended upon to give continual satisfaction with complete freedom from leaking connections.

In almost any piping installation in field or refinery, situations arise where the accurate machine work of Crane valves and fittings insures important savings of time and expense. That is why so many oil men prefer Crane materials.

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Enameled Iron Wash Sink No. Y-391

True to
SIZE
and
SHAPE

A standard insulating brick should be 9 inches long by 4½ inches wide by 2½ inches thick,—to conform with the size of standard fire brick. Any variation in the size adds to the cost of installing insulated masonry walls.

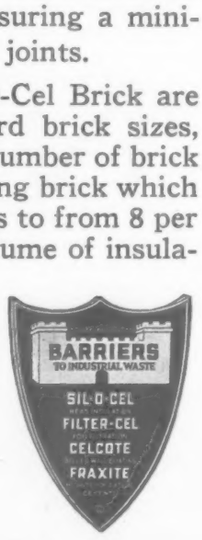
Sil-O-Cel Brick have always been noted for their extreme uniformity to size and shape, as compared to any other type of insulating brick available.

Now, a new process has been perfected by means of which each Sil-O-Cel Brick passes through a final machining operation to dress all surfaces smoothly and evenly. This affords a positive check on size and shape, and makes the supremacy of Sil-O-Cel Brick more definite than ever before.

In addition to the greater ease in laying brick insured by this new process, tighter joints between the brick are made possible because no excess mortar is required to provide for irregularities. Sil-O-Cel Brick are laid with thin, tight joints insuring a minimum of heat loss through the joints.

Due to the fact that Sil-O-Cel Brick are manufactured true to standard brick sizes, they cover a greater area per number of brick than do other forms of insulating brick which are under-sized. This amounts to from 8 per cent to 20 per cent greater volume of insulation per thousand brick units in many cases. This fact adds greatly to the economy of using Sil-O-Cel Brick Insulation.

A sample brick gladly sent to responsible officials requesting it on company letterhead.



CELITE PRODUCTS COMPANY

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CELITE PRODUCTS CORPORATION, WINDSOR HOUSE, LONDON, S.W.1., ENGLAND.

dollars in the producing, transporting and refining ends of the industry.

If the producing end of the industry can't be controlled and the marketing end of the industry is out of its control, then the industry as a whole can not hope for stable conditions.

If the manufacturers of automobiles, with a large surplus producing capacity, were to ignore the absorbing capacity of the public for cars, operate their factories at maximum capacity, push the cars onto the dealers, and the dealers in turn attempted to push them onto the public, the industry would become chaotic within less than six months.

And yet the petroleum industry has done essentially this thing dozens of times in the last 65 years. It is today staggering under the burden of not only too much crude oil above ground but of a surplus of refined products that it can ill afford to carry—and that it cannot afford to try to push onto the public without further demoralizing the market.

New Order Predicted

The petroleum industry can not put the same kind of selling pressure on the filling station operator that the car manufacturer puts on the dealer—hence the more reason why the petroleum industry can not leave the sale of its products to Tom, Dick and Harry.

Obviously the petroleum industry can not, without jeopardizing its vast investment, place the sale of its refined products with people who have no organic, integrated, constructive interest in the industry as a whole, any more than the automobile industry can place the sale of its cars with dealers who have no constructive interest in the industry as a whole.

The rapid passing of our great basic industries into the hands of a relatively few great coporations in each industry, will just as surely be followed by "a new order of things" in the merchandising of the finished products to the public.

Prairie May Boost Capital Stock and Decrease Par Value

A more than usually important annual meeting of the stockholders of the Prairie Oil & Gas Co. will be held December 9 in Independence at which time resolutions will be offered providing that the par value of Prairie shares be changed from $100 to $25 and the capital stock of the company increased from $60,000,000 to $70,000,000.

The following notice, sent to every stockholder of the company, contains a number of paragraphs of especial interest:

"To the Stockholders of the Prairie Oil & Gas Co.

"Notice is hereby given that the regular annual meeting of the stockholders of The Prairie Oil & Gas Co. will, in accordance with the bylaws of said company, be held at the office of the Prarie Oil & Gas Co. in Independence, Kansas, on Tuesday, Dec. 9, 1924, at the hour of 7:30 o'clock p. m.

"Stockholders of record at the close of business Nov. 8, 1924, will be entitled to one vote for each whole share held. Fractional shares will have no voting power.

'Pursuant to resolution of the board of directors of this company, there will be presented at the annual meeting of the stockholders to be held at the above stated time and place resolutions to amend the articles of incorporation of this company.

"First, to reduce the par value of the shares of the capital stock of this company from one hundred ($100.00) dollars each to twenty-five ($25.00) dollars each.

"Second, to increase the capital stock of this company from the present authorized and issued capital of sixty million ($60,000,000) dollars to seventy million ($70,000,000) dollars. If such increase be authorized, one-half thereof, or five million ($5,000,000) dollars par value of this additional stock, to be reserved for sale to employes of the company under an employes' stock participation plan to be adopted by the board of directors, and the remaining five million ($5,000,000) dollars par value of such stock to be held in the treasury of the company.

"These proposals do not mean that the directors have in mind any change in the company's business or any important expansion other than probable continued increase in stocks of crude oil by reason of overproduction in the Mid-Continent Feld. It is the judgment of the company's management that present conditions and future prospects for our business do not warrant the expectation of immediate increase in earnings or dividends, but, on the contrary, it may become necessary to temporarily reduce or discontinue dividends until the oil industry shall have made progress in recovery from existing depression.

"The stock books of this company will be closed for the transfer of shares from and after November 8, 1924, until December 10, 1924.

"In the event that you are holder of one or more whole shares, you will find a proxy enclosed. If you are unable to attend the meeting, will you kindly execute and return the proxy in the enclosed envelope?

"J. A. HOLLIHAN,
"Secretary."

SECOND OIL PRODUCER NEAR FORESTVILLE, N. Y.

FORESTVILLE, N. Y., Nov. 1.—Another oil well has been struck in the territory southwest of here, where the Republic Light, Heat & Power Co. is operating. Some time ago oil was found on the Yonkers farm. The new well is within 300 feet of the first. It is said to produce 25 bbls. a day. Half a million feet of gas was also struck. Oil from well No. 1 is being run through the pipe line to tank cars at the station at Sheridan and sent to a refinery.

There are three more rigs working in the territory. Representatives of various oil companies have tried in vain to lease land in the oil section, but it is all under contract, about 25,000 acres are being leased by the Arkwright Natural Gas Co. who thus far have been unable to find gas.

EASTERN FIELDS

(Continued from Page 60)

the completion of a large gas well in the local fields. It is the National Oil & Gas Co.'s test on the William Campbell farm, in Indiana Township, Allegheny County. When drilled into the 100-foot sand it showed a capacity of 5,000,000 feet a day. When shut in it was increasing its flow. In West Bethlehem Township, Washington County, the West Bethlehem Oil & Gas Co.'s test on the McCarty farm is a gasser in the Gordon sand. In Center district, Greene County, the Natural Gas Co. of West Virginia got a gasser in the Gordon sand at No. 3 on the W. S. Carter farm. In Perry Township, the Philadelphia Oil Co.'s test on the Spencer Stevens farm is a gasser in the Big Injun sand.

Deep Tests Shut Down

On Chestnut Ridge, Westmoreland County, the Peoples Natural Gas Co. has shut down at its deep test on the Sellers Brothers' farm. In the same locality, the same company has shut down at 7,149 feet to repair the rig at its second test on the Booth-Flinn property. The officials of the Peoples Gas Co. are undecided as to trying to drill deeper at the well on the Sellers Brothers' farm.

NEW YORK OPERATIONS

BOLIVAR, N. Y., Nov. 1.—The casing is being put in the well the Potter Gas Co. is drilling on Joe Foote's farm at the head of Taylor Brook, Ceres Township. The drilling well on the Harry Hardman lot in the village of Richburg is shut down, awaiting the arrival of a stem. Millard Brothers are cleaning out a well on the Millard farm, southeast of this village. The Richburg Oil Co. has completed a fair well on the Swarthout farm at Richburg. Guy Fitch, the contractor, is now drilling another well on this lease.

The New Orleans, Pioneer Circumnavigator of the Globe, Via Air, and Model 33 International Motor Truck, at a Mid-Continent Refueling Station.

THE romantic aspects of the world flight have been celebrated to the ends of the earth, to the neglect of the organization that underlay the flight around the globe. Yet without superb support the planes would be more helpless than the ambitious barnyard fowl whose wings are clipped to keep him at home.

Heavy-duty International Motor Trucks in the service of the oil companies rubbed noses with the resting planes, we do not know at how many points. We know, however, speaking of world-span, that International Trucks are at work today in 26 nations and that in the United States many thousands of them are at work in the various phases of the oil industry.

International Heavy-Duty Trucks are built in 2000, 4000, 6000 and 10,000 pound maximum capacities with bodies to meet every requirement. There is also a sturdy Speed Truck for loads up to 2000 pounds. Possessors of a reputation for low-cost hauling and for long life. Write us regarding any model and for the address of the nearest showroom.

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THE LATHROP-PAULSON COMPANY
Chicago, Ill.

The Fisher Governor Co.,
Marshalltown, Iowa
Gentlemen:

For your information we will say that the pumps on our machines are started and stopped from five to ten times a minute or from 300 to 600 times an hour and a very sensitive and positive governor is required to get the quick action necessary.

We are pleased to advise that FISHER governors are handling this to perfection, giving us dependable pressure without waste or loss of efficiency.

(Signed) THE LATHROP-PAULSON CO.

STANDARD OIL COMPANY, Inc. in Ky.
Manufacturing Department
Louisville, Ky.

Sept. 27, 1921.

The Fisher Governor Co.,
Marshalltown, Iowa
Gentlemen:

Replying to yours of September 16th, concerning 8—1" type 33 steam traps, which we bought for use in our Louisville Plant. I am glad to be able to report that these traps have proved satisfactory. Their maintenance is considerable less than on any other trap, which we have in operation.

Yours truly,
A. K. WHITELAW,
General Manager.

Bulletin 1502 is devoted to "Oil Field Specialties." Let us send you a copy.

THE FISHER GOVERNOR COMPANY
Dependable Oil Specialties
362 Fisher Ave. Marshalltown, Iowa

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SPECIALTIES

Oil in Wrong Place New Jersey Company Comment on Storage

The petroleum industry of the United States at present is carrying 500,000,000 bbls. of crude oil in storage tanks throughout the country. According to an estimate by the Standard Oil Co. of New Jersey, it is costing the oil industry $150,000,000 annually to carry this oil, the charge including storage, interest charges, evaporation and other losses.

Under the caption "Oil in the Wrong Place," the company in the current issue of The Lamp, says:

"The American petroleum industry has stored petroleum in costly steel tanks as though it feared that each month might see the last barrel taken from the ground. Credit or blame for this situation belongs equally to the producer and purchaser. The purchasing companies have had to take surplus oil whether they wanted it or not, or see waste and bankruptcy in the producing fields.

"On the other hand they have been guilty of inducing men to sink wells when they were not needed by paying prices that proved attractive to the drillers. Whatever the apportionment of responsibility, the industry today finds itself in the position of being overinsured against the near future. Its reserves of oil above ground awaiting consumption are much larger than is either economic or comfortable."

The company says that no one can arrive at a figure as to what constitutes an adequate but not excessive amount of oil above ground. It is plain, it is asserted, that the figure would be at least a third lower than that representing current stocks. If the so-called reserves were drawn on to the extent of 200,000,000 bbls. it would leave the industry in much better shape, because it would then have more working capital, both money and in storage facilities, to handle new production. But instead of being reduced the stocks above ground have been further augmented. Despite the fact that production has been running well above current needs for three years, around 40,000,000 bbls. of oil went into swollen stocks in the first half of 1924.

"The remedy under the circumstances seems obvious to the layman," says the company. "Why not stop new drilling until the industry catches up with its supplies? The trouble is that the producer of crude oil cares nothing for Government statistics when opposed by market quotations. So long as he has a prospect of selling production at a price that will show him a good profit, he sees no reason to grow disturbed over the way both crude and finished products are piling up in some one else's hands.

"Competition is free and unrestricted in the petroleum industry. There is no central agency for deciding what prices should be posted for crude oil. In fact, there is no control over prices except that exerted through the open markets by changes in the balance between supply and demand. When there is not enough crude being produced to meet the requirements of the refiners, or when they think it is not enough to provide for themselves and others, pressure is exerted by the payment of premiums above current quotations and this encourages new drilling campaigns. The reverse operation is usually seen in a continued period of overproduction, when the buyers discourage production by offering less money.

"Price cuts do not have an immediate effect in curtailing production, however, for the reason that the serious overproduction usually comes from a field of such big wells that it is found profitable to drill them even though the price of crude oil drops to a small percentage of the figure at which small wells can operate at a profit. The large producing wells pay out even in a depressed market. A drastic price cut does not discourage drilling in such a field.

"The prices paid by the buyers may be less than actual costs for thousands of small producers, but with the bulk of the country's petroleum coming from a relatively small number of wells, the drop in quotations does not have an appreciable effect in cutting down the daily output. This is an unfortunate inherent weakness in price cutting as a remedy for overproduction, although certainly no better substitute has been found so far in the history of the business.

"The situation must in time provide its own remedy as quotations more closely follow the refineries' needs for raw material. In this connection, it should not be forgotten that these requirements have been greatly reduced, from the gasoline manufacturers' standpoint, by the development and more general use of cracking processes which have increased the yield per barrel from 18 per cent before the war to around 31 per cent today."

Poland Asks Offers By Oil Prospectors For Galician Leases

The Polish Government is inviting public offers for oil lands in East Galicia, situate in the extensive State forests, which are claimed to be partly proved oil territory. The conditions are as follows:

1. Each concessionaire may acquire a prospecting permit over 2,000 hectares selected by himself and 2,000 hectares selected by the Government.

2. The preliminary prospecting must be completed within one year, within which the concessionaire must indicate the locations at which he will drill.

3. During the second year the concessionaire must carry out work on at least two boreholes.

4. During the third year at least one borehole must be drilling on each property; upon this condition being fulfilled the Government will issue development concessions over areas of from 10 to 100 hectares. These plots will be so divided that between each two such areas there shall be one area remaining under the control of the Government.

5. By the end of the fifth year one borehole must have been drilled on each development concession.

6. Royalty in oil (brutto) in payment for the concessions will vary, according to the situation of the lands, from 10 per cent to 16 per cent.

The concessions shall be for 25 years, with prolongation rights for a further 15 years.

The Polish Government calls this land "partly proven" for oil purposes, but it adds that "preliminary prospecting work" must be carried out by the concessionaire within one year of the granting of a prospecting permit. Another feature criticized in London is that while the concessionaire is allowed to select an area (limited to 2,000 hectares) over which he may prospect, he is obliged to take, in addition, another similar plot chosen for him by the Government. Thus the prospector is burdened with 2,000 hectares he does not want at all. Yet he has to prospect both areas, and he must even, at the end of a certain time, put down wells on both areas. If and when he decides that any particular section is worth development he can select locations for wells, but only on the condition that between any two sections of from 10 to 100 hectares which he selects, the Government shall hold a similar area. All the prospecting work, both on the land he applies for and on that which the Government retains, will be carried out by the concessionaire at his own expense, whereas if he is successful the Government pushes itself right into the midst of the small territory which he chooses for development purposes. In addition, the Government requires a royalty of from 10 to 16 per cent of the production, according to the situation of the property.

CLARENCE WILLIAMS DEAD

BRADFORD, Pa., Nov. 1.—Clarence A. Williams, aged 74 years, a resident of Bradford and vicinity for 47 years, died at the Bradford hospital. He came to Bradford during the early days of the oil excitement. For 25 years he had been postmaster at Sawyer City.

REED ROLLER BIT COMPANY "The Bit with the Bite"

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have demonstrated superiority of performance in the field! . . . .

The illustration in itself is almost conclusive evidence of the Reed Roller Bit. Its strength is apparent; its SAFETY is indicated by the safely interlocked parts which cannot come off in the hole; its SPEED is evidenced by bithead cutting surface with cutters revolving on separate bearing centers and attacking the rock at various angles; its DEPENDABILITY is still further enhanced by the advantages of slush for lubrication instead of oil—no sand or grit to grind out bearings and no useless trips in and out of the hole to refill oil chambers.

"SLUSH LUBRICATION" is only possible with the Reed Roller Bit because of its peculiar inner-channel design in both bithead and reamer. Slush is pumped through the openings full force, keeping cutters and bearings free and easy rolling.

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CALIFORNIA OFFICE: 1341 Santa Fe Avenue, Los Angeles. Phone Tucker 2785. Ask for Mr. E. B. Wiggins.

REFINING AND MARKETING

BUYS HALF INTEREST IN WEST TEXAS CO.

COLORADO, Tex., Nov. 1. — The Hickok Production Co. of Toledo, Ohio, has purchased a half interest in the property of the West Texas Refining Co. at Colorado, Tex., from the Anderson-Prichard Oil Corp. of Oklahoma City, which owned the entire capital of the West Texas Co. The name of the Texas company was thereupon changed to the West Texas Refining & Development Co. and the capital stock increased to $600,000. L. H. Prichard, of Oklahoma City, is president, R. S. Hickok, of Toledo, vice president, and J. Steve Anderson, of Oklahoma City, secretary-treasurer.

The new company has acquired a half interest in the producing wells and 480 acres of proven leases of the Sloan Oil Co., which operates in the Mitchell County Field and has a production of 500 bbls. daily. From this field to the refinery of the West Texas Co. at Colorado is a pipe line owned by the company. President Prichard announces the company expects to become active in field development. One well has been started on the Sloan lease and several others are to be drilled during the next few months.

L. H. Prichard

An enlarged eastern market is obtained by the West Texas Co. through the Hickok deal, the latter concern operating 125 filling stations in the vicinity of Toledo and others in that territory.

J. F. Hays has succeeded Charles Dresser as sales manager of the Anderson-Prichard Oil Corp. of Oklahoma City, being in charge principally of northern sales. The local sales department is directed by M. C. Champion. Mr. Dresser, who recently resigned, was appointed sales manager of the Pauline Oil & Refining Co. of Oklahoma City.

COMPLETE INSTALLATION

The Universal Oil Products Co. has completed the installation of four Dubbs cracking units at the Ardmore, Okla., refinery of the Imperial Refining Co., Tulsa. Two of the units have been in operation for two months and the remaining two units were completed last week. The Imperial plant, which operates on the lower gravity crudes of the Ardmore area, has a skimming capacity of 6,000 bbls. daily.

National Petroleum Marketers Convention Program

Program of the Annual Convention of the National Petroleum Marketers' Association to be held at Cleveland, Ohio, November 18, 19 and 20.

Morning Session—First Day—Tuesday, November 18

No business meeting—time to be devoted to renewing friendships and looking over exhibits.

Afternoon Session—First Day

Fifteen minute talk by President L. V. Nicholas—giving a general outline of the meetings and program to follow.

Address: "Credit—Its Use and Its Abuse," by J. W. Hallman, Credit Manager, The Sun Co., Philadelphia. (Fifteen minute open forum discussion on any point you may want to clear up with the speaker.)

Open Forum Discussion: "What Constitutes a Legitimate Distributor?"

Open Forum Discussion: "What Is a Fair Marginal Contract?"

Address: "Price and the Public," by an authority on sound economics. (Speaker to be selected later.)

Evening Session—First Day

Address: "Publicity and the Railroads," by Robert S. Binkerd, Vice Chairman of the Committee on Public Relations of the Eastern Railroads, New York. Mr. Brinkhead is a great authority, with a message of interest and encouragement to us. (Fifteen minute open forum discussion on any point covered in his address which the audience may want to clear up with the speaker.)

Morning Session—Second Day—Wednesday, November 19

Report of Officers.
Report of Auditing Committee.
Address: "This Association"—(an intimate and frank man to man talk)—by L. V. Nicholas, President.
Report of Credentials Committee.
Report of Nominating Committee.
Election of Officers.

Afternoon Session—Second Day

Address: Henry L. Doherty: "The Oil Industry and the Public." (Open forum discussion of any point covered in his address which the audience may want to clear up with the speaker.)

Talk: "Why I Am Opposed to Motor Dopes," by J. L. Murray, President, Corn Belt Oil Co., Bloomington, Ill.

Talk: "Nationally Advertised Oil vs. Your Good Local Brand," by W. A. McMillan, Vice President, Lindsay-McMillan Co., Milwaukee.

Evening Session—Second Day

Banquet and Dinner Dance. 7:00 p. m., Banquet Room, Hotel Hollenden.

Morning Session—Third Day—Thursday, November 20

Are We Ready for an Oil Exchange? Our proposal:

"Make pipe lines and their storage facilities common carriers in fact as well as in name.

"The formation of an open crude market, similar to the stock exchange or wheat pit, where pipe line credit balances and all other petroleum products can be bought and sold openly.

"The exchange to be in charge of a board of governors formed by the industry."

Open Forum Discussion—Vote yes or no.

Afternoon Session—Third Day

The Advertising Campaign—Statement by the trustees.
Unfinished Business.
4:30 p. m.—Prize Drawing.
Adjournment.

CONTRACTS CLOSED FOR CRACKING UNITS

The M. W. Kellogg Co. has closed contracts with the Atlantic Refining Co. for the installation of the Cross cracking units at both their Philadelphia and Franklin, Pa., refineries. The installation at the Philadelphia plant will have a capacity of 12,000 bbls. daily and that at Franklin 6,000 bbls.

The Kellogg Co. also contracted with the Pierce Petroleum Corp. for the installation of Cross units at their Sand Springs, Okla., refinery with a capacity of 4,000 bbls. daily. All of these installations are of the modern bubble tower type designed to produce 437 end point gasoline direct from the cracking plant.

MID-CONTINENT RATE HEARINGS ADJOURNED

FORT WORTH, Tex., Nov. 1.—The Mid-Continent rate hearing was adjourned here after testimony had been taken for 10 days. It is probable the hearing will not be resumed until late in December or some time in January. It is expected the next hearing will be held at either Kansas City, St. Louis or Chicago. (A report of the Fort Worth hearing was published in the October 30 issue of The Oil and Gas Journal.)

EXPORTS TO TERRITORIES

Mineral oil exports to U. S. noncontiguous territories during September, 1924, reported by the Bureau of Foreign and Domestic Commerce (in gallons):

Mineral oils:	Alaska	Hawaii	Porto R.
Crude	.....	2,436,000	.....
Gasoline, naphtha, etc.	722,887	2,000	1,934,686
Kerosene	75,839	25,300	272,200
Gas, fuel oil..	3,119,020	9,199,220	5,000
Lubricating oil.	45,763	126,576	65,528
Residuum and other	26,510	4,659	2,622
Total	3,990,019	11,793,755	2,280,036

USED FOR SINCLAIR PRODUCTS

A new issue of $6,000,000 National Steel Car Lines Co. 6 per cent equipment trust gold certificates, Series E, is offered. The certificates are unconditionally guaranteed by the Sinclair Consolidated Oil Corp. and are secured by a first lien on 5,247 standard steel tank cars used in the distribution of the products of subsidiaries of the Sinclair Corp. The cars are appraised in excess of 7,900,000.

SHIP BOARD PROTESTS ON FUEL OIL PRICES

SAN FRANCISCO, Nov. 1.—Officers of the fuel oil department of the Emergency Fleet Corp. indicate dissatisfaction over the bids of California companies for whole or part of 5,520,000 bbls. of fuel oil required. If all the proposals are rejected, purchases will be continued in the open market. An offer of $1.29 a bbl. for 1,200,000 bbls. of bunker oil delivered at San Pedro and 3,360,000 bbls. cargo lots, delivered at the same port over the 12 months, was the lowest bid.

On this basis, allowing for the transportation charge of about 55 cents a barrel from California, it is figured fuel oil contracts on the Atlantic Coast will bring from $1.80 to $1.85 a barrel. It is expected the Shipping Board contracts for delivery on the Atlantic Coast will be opened about the end of November. A year ago Standard of N. J. was awarded the contract on the eastern coast with a bid of $1.39 a barrel, New York harbor.

ENGINEERS DISCUSS CASINGHEAD GASOLINE

The Tulsa section of the petroleum division of the American Institute of Mining and Metallurgical Engineers will hold a public meeting in the commissioners' room of the City Hall in Tulsa at 8 p. m. Friday, November 8, at which subjects relating to casinghead gasoline will be discussed. George Shallenburger, vice president of the Marland Refining Co., will read a paper on "The Economics and Cost Analysis of Casinghead Gasoline," and G. G. Oberfell will present the subject of "Modern Casinghead Gasoline Plant Design." The officers of the Tulsa section cordially invite all interested to be present at this meeting.

RAIL USE OF FUEL OIL

The Interstate Commerce Commission reports fuel oil consumed by locomotives in the U. S. for August and eight months ended August as follows (in thousands of gallons):

District and Region—	August	8 Months— 1924	1923
Eastern district:			
New England region	9	79	22
Gt. Lakes region..	896	4,057	4,479
Cent. East. region..	219	1,827	2,203
Ttl., East. dist...	1,124	5,963	6,704
Southern region...	2,850	34,790	28,166
Western district			
Northwest. region.	18,357	141,486	114,873
Cent. West. region	84,803	655,920	632,986
Southwest. region.	61,935	509,788	443,287
Ttl. West. dist..	165,095	1,307,194	1,191,143
United States	169,069	1,347,937	1,226,915

EDWARDS CO STATIONS

OKLAHOMA CITY, Okla., Nov. 1.—The Edwards Oil Co., operated by J. T. Edwards, formerly general manager of the sales department in Oklahoma of the Shaffer Oil & Refining Co., has leased the three service stations in Oklahoma City of The Texas Co. These are at Oklahoma Avenue and Thirteenth Street, Classen Boulevard and Sixteenth Street and Hudson Avenue and Seventh Street. The Edwards Co. has stations at 616 North Broadway and 2508 North Walker Avenue. A service station is to be installed at Classen Boulevard and Twenty-fifth Street by the Shaffer Oil & Refining Co., a site for which recently was purchased.

OMAHA REFINERY SHUT DOWN

OMAHA, Neb., Nov. 1.—The Omaha Refining Co. of this city is temporarily closed down. The shutdown is due to the unfavorable marketing condtiions existing in Nebraska and the plant will not resume operations until market conditions improve. The plant has been in operation over a year, the crude supply being obtaind from the E. T. Williams Co. of Casper, Wyo.

The big time element

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PART of what you sell to customers is speed in delivery. Here's the organization to give you the greatest possible speed—with low freight rates. Look at the list and locations of our refineries and branches for the answer. In addition we have our own telegraphic communication, our own pipe lines and tank cars to cut out delays. And more than 5,000 producing wells in the country's finest crude fields —so that we can absolutely control quality, can give you products exactly to specifications. A money-making combination!

Write, wire or phone your requirements:

GASOLINE—all grades.
LUBRICATING OILS—all grades. Tank cars, carloads in barrels.
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FUEL AND GAS OIL—all grades.
WATER WHITE KEROSENE. Gravities 40 to 47
MINERAL SEAL OR 300 OIL
—and all other Petroleum Products.

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Independent—successful, through unvarying high quality in all products

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Marcus Hook, Pa.	Minneapolis, Minn.	Chicago	Pittsburgh
Warren, Pa.	Cushing, Okla.	Philadelphia	Tulsa, Okla.
Heath, Ohio	Muskogee, Okla.	Dallas	Charleston, W. Va.
Cabin Creek Jct., W. Va.	Ardmore, Okla.	New York	Warren, Pa.
	Smith's Bluff, Tex.	Minneapolis	Knoxville, Tenn.

Recent Development in Cracking

British Petroleum Technologists Discuss Various Processes, Comparing Methods of Operations and Results Attained

By A. E. Dunstan and Robert Pilkethley*

It is now eight years since Dr. Thole McLennox and one of the present authors surveyed the problems incident to cracking. Much oil has flowed through the pipe lines since then, and the present moment is a convenient one for a general consideration of the situation, seeing that the art is in process of being standardized.

Surveying the typical examples of cracking processes dealt with in the sequel and the subject in general, there are certain outstanding points of interest. In the first place, vapor phase processes working under practically atmospheric pressure have not been particularly successful; losses are high and the products are poor in quality. On the other hand, exceedingly high pressure processes have not advanced far beyond the development stage. Most of the processes which have been utilized to any extent operate under comparative moderate pressures. General observations appear to point to the conclusion that, provided the pressure is sufficient to maintain the oil under operation mainly in the liquid phase, there is no particular advantage in extremely high pressure, as far as the quality of the product is concerned, as oils converted at pressures between 350 and 700-pound appear to have similar characteristics. Considering extremely high pressure processes like that of Bergius, it is apparent that hydrogen disappears in certain cases, but it is questionable if the hydrogen is contained in the liquid products of lower boiling point. Waterman's work on this subject is particularly interesting.

Time, Temperature, Yield

The question of temperature in liquid phase cracking is decided by the particular oil under treatment and the amount of spirit desired, as there appears to be a definite relationship between the three variables—time, temperature and yield. The percentage of spirit obtained after the oil has reached definite cracking temperature appears to double itself, within limits, for an increase of temperature in the neighborhood of 10°C. In the same way when the rate of pumping is halved, or the time of reaction doubled, the same increase in spirit content is noted.

There has not been a great advance in our knowledge of cracking from a chemical point of view during the last few years and the problems connected with it have been more of an engineering quality. The most urgent problem to the majority of refiners is the elimination—or at any rate the diminution in quantity—of coke in order to allow plant to run continuously without having to close down periodically. Bergius claims to have successfully overcome this problem, but to the majority of others the question is definite, and it is questionable if coke can be eliminated without hydrogenation brought about by one method or another.

Surprisingly little progress has been made in the examination of the residues left after the cracked gasoline has been removed from the synthetic crude oil. The work of Brounlee may be instanced as an attempt to explore the possibilities of this material, and investigators will do well to bear in mind that here is a reactive material of unknown constitution, the knowledge of which would probably amply repay intensive research.

Nothing has arisen in the interim to cause us to modify the views discussed in the previous paper to which reference has been made. The kinetics of pyrolysis still remains in a sketchy and unsatisfactory condition, and it is not surprising that this should be so when it is realized what little exact knowledge we have of the decomposition of even the simplest hydrocarbons.

Processes Discussed

We now proceed to discuss a few processes which we have personally investigated, and these have been selected, firstly, because they exhibit interesting difference in procedure, and secondly, because they show promise of leading to a cracking technique and process which shall be as standardized and simple as a still or any other piece of familiar refinery plant.

The Dubbs process has been developed from several basic patents and is one of the most successful processes of the two-phase type wherein the oil is cracked in tubes in the liquid phase. At the moment there are 113 units of the plant in operation or under construction.

The process is simple in that the oil to be cracked is pumped through a heating coil in a furnace and passes into a hammer welded reaction chamber, wherein all coke is collected and from which the residuum produced is continuously withdrawn. The vapors pass from the reaction chamber into the dephlegmator, which separates the heavier oil from the lighter cracked vapors. The light vapors are condensed an dthe heavier fractions return to the heating tubes.

In the Standard Dubbs unit of 500 bbls. capacity per day the charging stock is pumped continuously and at a uniform rate by the feed pump, and is discharged either directly into the heating coil in the furnace or through the overhead line to the top of the delphlegmator, wherein it is preheated by the condensing vapors. The feed may be split by means of control valves, part of it going through the delphlegmator and the remainder direct through the heating coils. The oil enters at the bottom of the heating coil and flows upward, passing through 50 4-inch tubes 30 feet long, connected in series by return bends. The furnace is side fired and has two compartments, a combustion chamber and a heating chamber. The hot gases from the combustion chamber pass into the chamber containing the heating coil at the top and flow downwards counter current to the flow of oil. The double chamber is designed to protest the tubes from the direct flame of the furnace. The oil is heated to the required cracking temperature, about 450°C., before it is discharged into the reaction chamber.

Cracking is completed in the reaction chamber without additional heat, heavy lagging being sufficient to maintain the temperature.

Dubbs Process

The oil separates into vapor and residuum fuel oil and the carbon liberated by the cracking is deposited in the chamber to form coke. The residuum is withdrawn continuously through a cooler to fuel storage.

The reaction chamber is 10 feet in diameter by 15 feet high and 1½ inches thick, and is provided with run-off pipes, for successive use as the coke level rises. The capacity for coke of each chamber is about 30 tons. The vapors from the reaction chamber are transferred by a vapor line into the dephlegmator, which also acts as a heat exchanger as the temperature in the dephlegmator is mainly controlled by the quantity of cold raw oil introduced. The average temperature at the bottom of the dephlegmator is about 395° C. The condensed heavy oil and the raw oil, preheated to about 300° C., pass from the delphlegmator down the reflux leg via the feed line to the cracking tubes.

The light vapors rise to the top of the dephlegmator and are discharged through a line into the condenser. The condensate and the uncondensable vapors flow into the pressure distillate receiver. Up to this point the entire system is under a uniform pressure of about 140 lbs. /sq. in.; thereafter the gas separates at atmospheric pressure from the distillate and is used as fuel. In the process control temperature recording instruments are placed in the furnace, in the transfer liquid to the reaction chamber, in the cracked vapor as it leaves the dephlegmator, and in the residuum leaving the reaction chamber. Pressure is recorded by a gauge on the pressure distillate receiver. Oil meters measure the raw oil and a gas meter measures the amount of gas produced. It is claimed for the Dubbs process that it has the ability to crack any liquid hydrocarbon from kerosene distillates to heavy residues such as Panuco residue. There is no appreciable formation of carbon in the heating coil, and the length of the run is determined by the capacity of the reaction chamber to store coke. In the light of many serious results which have ensued from the operation of cracking plants the safety of the process is claimed. In a 500-bbl. unit only 10 to 20 bbls. of oil are in the coil subjected to heat, but not to direct flame, and a limited quantity (about 20 bbls.) is maintained in the reaction chamber which is outside the heating zone.

Due to the moderate pressure, average 150 lbs., there is no undue danger such as is present at substantially higher pressures.

Without Pre-Treatment

The Dubbs process is the only process which is successfully cracking cracking commercial fuel or topped crude direct without pre-treatment or distillation.

Distilling fuel oil and cracking the distillate is not the same as cracking fuel direct, as the residue on distillation is pitchy, with only 50 to 60 per cent distillate suitable for cracking. Whereas running the fuel oil direct yields 40 to 50 per cent. Navy gasoline, 25 to 50 per cent gas oil and the balance coke and gas. If residuum is desired this can be produced from the reaction chamber and is suitable for fuel.

The coke is dry and hard and a good commercial fuel. It is suitable for briquetting, and in most instances without a binder.

The one unit standard plant is estimated to cost about £15,000, without tanks, steam and water auxiliaries, etc.

The control of the plant is simple, and two or three men per shift are capable of operating two units with total capacity of 1,000 bbls. per day. Once the operating conditions are fixed there is little or nothing to do until the run comes to a finish.

As an example of the work done by the plant we quote the cracking of Mid-Continent fuel oil in a number of typical commercial runs. The fuel used was the residue after distilling off the gasoline, kerosene nad gas oil and ranged in specific gravity from 0.900 to 0.912.

The pressure distillate received represented 61 to 69 per cent, having a specific gravity 0.760 to 0.778. This pressure

(Continued on Page 122)

*From a paper read before the British Institute of Petroleum Technologists.

CROMWELL SAND VERY PROLIFIC FIELD PRODUCED 7,200,000 BBLS.

That the Cromwell Pool in Township 10-8, Seminole County, Oklahoma, had produced up to October 15, a total of 6,602,138 bbls. from 114 wells, or 5,792 bbls. per acre was brought out Saturday night at a meeting of the Tulsa Geological Society by G. S. Rollin of the Roxana Petroleum Corp., who presented a table showing the production by lease and gave a talk on the high lights of production in that field. Taking Mr. Rollin's figures as correct it would be safe to say that up to November 1 the field had produced 7,200,000 bbls.

Frank C. Greene, president of the society, presented a structure map of the field which he discussed at some length and started a general discussion on the geological features connected with the field, which appear to be many and the subject of opinion as varied as the number of geologists who have gone over the field. The geological discussion was entered into by James H. Gardner, H. H. Hughes, A. L. Beekly and others.

One of the features of the meeting was a talk on the general subject of geological faults by C. W. Washburn, a geologist of national repute formerly connected with the United States Geological Survey.

Mr. Rollin in his talk on the production features of Cromwell brought out the fact that the average production per well up to October 15 had been roundly 57,900 bbls. in about four months. In the Burbank Field the average production per well for the first 7-8-10 months had been only 38,660 bbls. The best producing area in the field appears to be around Gessell and others' Stidham lease in Section 16-10-8, which had produced an average of 169,562 bbls. per well up to October 15. The Gypsy Oil Co., Amerada Petroleum Corp.-Mid-Kansas Oil & Gas. Co. and the Carter Oil Co. all have big producing properties near at hand and the leases seem to lie at the head of a syncline coming in from the southwest, where the sand is loose and open. He called attention to a well of the Sinclair Oil & Gas Co. in Section 9-10-8, which came in at 3,874 bbls. a day on August 12 and in two months and three days had produced 163,000 bbls. and was flowing 1,600 bbls. at the end of the period. A well of the Central National Oil Co., which came in August 11 at 3,420 bbls. had produced 159,700 bbls. up to October 15. The largest initial producer in the field has been the Amerada Petroleum Corp.'s No. 1 Bruner. C NE NE SE, Section 16, which started off May 4 at the rate of 4,900 bbls.

Peak Reached in August

The Cromwell Field was opened in Section 15-10-8 last January and from January 21 to October 15, that one section of land. Mr. Rollin showed, produced 1,977,806 bbls. of crude from 32 wells or half the producing acreage in the section. Section 16 did even better. The first production in this section started about the middle of March and in seven months 2,219,043 bbls. of oil had been taken from that 1 square mile of land, from 33 wells, or a little more than half the producing acreage. Section 22 with only 18 producing wells and with production dating back only to March 12, produced 1,267,337 bbls. up to the middle of October.

The highest production per day per well occurred in the week ending July 10, when it reached 1,040 bbls., while the pool's greatest daily production

(Continued on Page 118)

An expert recently said:

"To keep the figures on the right side of the ledger it is imperative a high yield of gasoline be obtained from every barrel of oil that goes into the refinery, which can be done only by cracking the heavier oils"

He must have had the Dubbs Cracking Process in mind It alone fulfills these specifications

Universal Oil Products Company
Owners of the Dubbs Process
312 South Michigan Ave
Chicago Illinois

Common Oil Sense

It is doubtful if any one refiner could fill the average retail order. It generally calls for a variety of oil products in small quantities from every corner in the country. Aside from this shipping of small orders to scattered points, it would, as every refiner knows, run overhead up to the sky.

On the other hand, a retailer, at times, must have his orders filled on short notice. His business demands the best of service. Delivery which depended upon shipping conditions would spell his ruin.

Therefore—

—it is highly essential that someone serve both. This is the business of the Acme Petroleum Co. By grouping a number of small retailers' orders we can buy in large quantities from the refiners. Tsese oils, stored in our large tanks, can be quickly drawn upon to fill a retailer's specific needs. Our own tank cars give him quick delivery in the Chicago territory.

This marketing method is one of proved efficiency and economy. It insures the profit of all. It stabilizes the oil industry. It is public service that Acme definitely gives. Test it and know for yourself.

(This is fourteenth of a series of informatory advertisements on distribution problems with which the Oil Industry has to contend.)

A C M E

Petroleum Company

Executive Offices: 624 S. Michigan Ave., Chicago

KANSAS CITY, MO. Land Bank Bldg. **DALLAS, TEXAS** Magnolia Bldg.

OIL STORAGE PLANTS

Over 6,000,000 Gallons Storage

West Tulsa, Okla. Blue Island, Ill.

(Chicago Switching District)

REFINERS OPTIMISTIC AS TO FUTURE

Many in Chicago Territory Are Sold Up for Gasoline Until Middle of This Month. Fuel Oil Sales Increasing With More Domestic Burners Being Installed. Gasoline Movement Large

By John B. Waldo

CHICAGO, Nov. 3.—"Sitting pretty" is the way refiners describe their position as the month opens.

One refiner said his plant is sold up so far as gasoline is concerned until after the middle of the month. If the weather holds good he will have no difficulty in keeping his sales at or above his output. If the weather changes, he has the distillates to turn to which will be in active demand, if not, he will sell gasoline. And all the while the fuel oil business is getting better and better. That means that the price is advancing. There are many refiners in the Mid-Continent Field and the Valley who are in equally as good position. This particular refinery has no distribution and plans to sell its output to the jobber. The position of the refiner that has his own distribution to care for should be equally as good, if not better, provided he has given due attention to building up his sales of burner oil through his distributing agencies. Some seem to have rather neglected this branch of their business but are getting in heavily this season.

The gasoline movement is very large, now and it comes because the jobbers are having a good gallonage. Some have been free buyers in the spot market this week and while they do not like to pay present refinery prices, still they have little alternative. It is buy or lose business. The jobbers with marginal contracts have been ordering very freely. There is little possibility that the jobber will be able to secure as wide a margin from his refiner this year as last. This may be one reason why the marginal contracts are not going better than they are stated to be going by some of the refiners.

Dislike New Contracts

Few of the average country jobbers like the new contracts based on refinery rather than tank wagon prices. Some did not like the old contracts but they show no particular partiality to the revised editions. It is going to take more than one season to bring about the change. At the same time most would gladly sign a renewal of the old ones. The form suggested by the National Petroleum Marketers Association is quite a different form from the original draft. Some oil men are filling it so full of interlinings and changes that it will be quite another document before it is finally settled what the form shall be.

Certain clauses may be construed as price agreements. Several oil men have expressed their regret that there is no such organization as the Boards of Trade or the Exchanges that are common in many industries of no greater volume of business than the oil industry. The exchanges give an official seal to actual transactions and generally may be accepted as establishing a price at which a product was actually bought and sold.

The market for gasoline has strengthened during the week largely because refinery after refinery has announced that he was sold up for a considerable period and ceased to quote for spot or early delivery. This has reduced the supply and those that had any gasoline to sell have been able to improve their prices. At the close of the week many were asking 7¾ cents. This could hardly be called a prevailing price as most gasoline was selling at 7½ cents for U. S. Motor. jobbers stated that they could buy at 7¼ cents but there was no known source of supply that was quoting that price.

Natural Gasoline Firm

There is considerable of the 450 end point moving and sales of the higher gravities are greatly improved and the supply scanty. This has been specially true of the 64-66, 375 gravity. There are several leading jobbers that make a specialty of this grade and they get a nice price for it, usually 4 cents above the regular service station price and in some cases 5 cents a gallon. There has been little done in blends and attempts to do business in them is rather unsatisfactory. Natural gasoline is held more firmly. The statement is made that some of the large eastern plants are moving some of their stored gasoline and are pepping it up with natural gasoline. The bulk of the jobbers seem willing to provide for a continuance of the present business until the middle of this month but no longer, as they figure that the weather is sure to break about that time. The distribution is good. How it compares with September is not stated for the month, but the first half was nearly, if not quite as large.

Kerosene is a little lower and is really the only major oil product that can be quoted at a lower figure. Even distillates are holding their own in spite of the light consumption and almost stagnant demand. Refiners who found that the distillate was not moving began to run kerosene and the supply increased more rapidly than the demand. In fact the demand has been steady but not large the season through and the strength of the market has been the light offerings, not the heavy consumption.

The trade is still as sure as ever that it is going to have a large business in distillates of various kinds as soon as the season is a little older. There has been little distillate demand during the week wholly on account of the mild weather which has not caused sufficient consumption to make the consumer need additional supplies. The prices quoted are generally 3½ cents for the 36-38 and 3¾ cents for 38-40 straw distillate.

Gas oil is rather quiet although some business is reported and one sale is stated to have been made to a refiner who will crack the oil. There is considerable oil going to some gas companies but the supply is at least sufficient and the market is just about steady. A large buyer might be able to shade recent quotations a little as much of the recent strength comes from the strong fuel oil market.

Fuel Oil Strong

The fuel oil market continues to show considerable strength, due chiefly to the light offerings and the prospects for increased business. There have been numerous inquiries from buyers regarding contracts for fuel oil ranging quite commonly for six months. Whether it is the improved business prospects or the fact that buyers for the large consuming companies see no chance of declines in crude with lower prices for fuel oil, or the Teagle speech, at any rate there have been numerous inquiries and many of these have been passed on to the refiners who have been greatly encouraged thereby. It must not be forgotten that there are a great many users of fuel oil who can and will use coal if the oil price is too high. One of the nearby chemical companies has changed to coal recently and the strange thing is that it is a brother or sister company to a large oil concern. This change was made with fuel oil quoted at 95 cents. Some of the oil men figure that the changing point from oil to coal this season will be at the $1 mark. Others at the $1.25 price. There is a great abundance of steam coal and screenings can be had at nearly the cost of loading and freight, so high are the piles in some mine yards.

There are quite a number of good students of the industry who claim that the prices right now are close to the point where switching from oil to coal will be profitable to the buyer of fuel for heat units only. If the fuel is to be used for some special process like the

(Continued on Page 94)

New Grades of Natural Gasoline

Cut this out and put it under the glass of your desk or some other convenient place.

OFFICIAL SPECIFICATIONS

for Natural Gasoline as adopted and issued by the Association of Natural Gasoline Manufacturers—Revised October 1, 1924.

GRADE "DOUBLE A"

Recovery	Not less than 90%
End Point	Not over 375° F.
Gravity	80.0 to 87.9° Be.

GRADE "A"

Recovery	Not less than 90%
End Point	Not over 375° F.
Gravity	72.0 to 79.9° Be.

All Grades are Manufactured by Chestnut & Smith Corporation

GRADE "C"

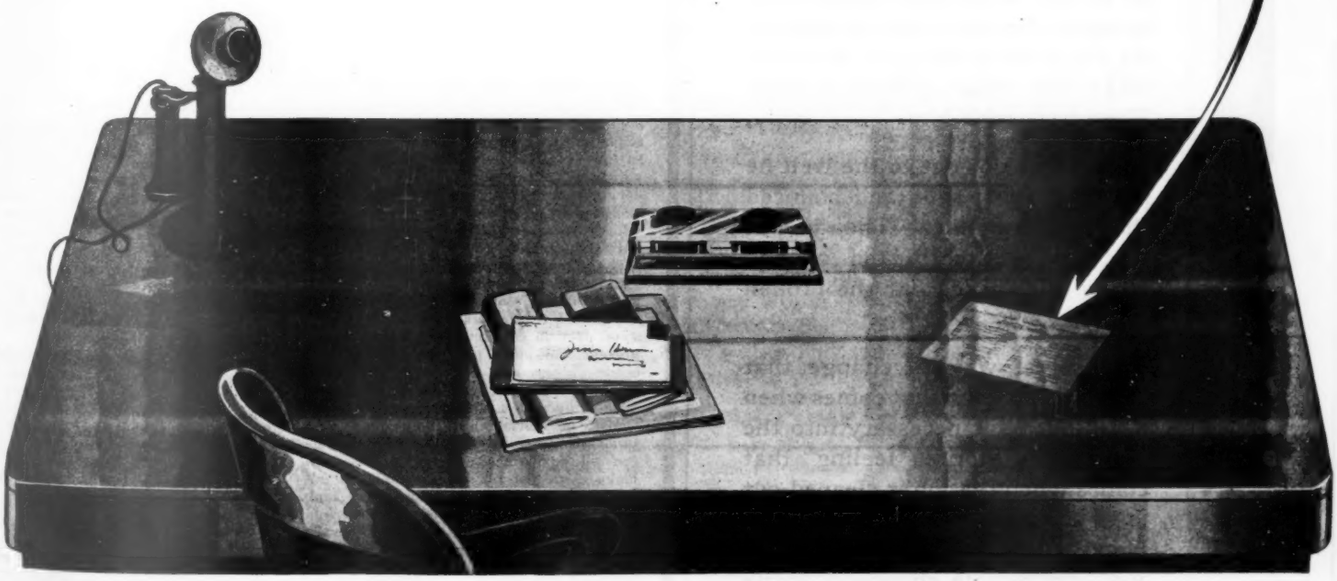
Recovery	Not less than 78%
End Point	Not over 375° F.
Gravity	80.0 to 90.0° Be.

GRADE "DOUBLE B"

Recovery	Not Less than 85%
End Point	Not over 375° F.
Gravity	84.0 to 92.0° Be.

GRADE "B"

Recovery	Not less than 85%
End Point	Not over 375° F.
Gravity	76.0 to 83.9° Be.



CHESTNUT & SMITH CORPORATION

GENERAL OFFICES—CHESTNUT & SMITH BLDG.— TULSA, OKLA.

It Was a Tough Fishing Job

—but the Devil's Steel Hand took care of it in short order—another remarkable record

The other day, in underreaming their 8-inch, the Landreth Production Co., who is drilling a rank Wild Cat in Ford County, Texas, broke a new Wilson lug off at the shoulder. The lug went to the bottom.

Devil's Steel Hand

Any contractor or driller will tell you that this particular kind of fishing job is about the worst there is. Harry Watson, who is Landreth's Field Superintendent, and who sticks mighty close to Ed. Landreth's Wild Cat jobs to keep the crews busy when the price of oil is low, knew from experience, however, the tools that he needed. He drove the 90 miles to Breckenridge and took a Devil's Steel Hand back with him.

When he got out to the well he put on a short spud and bounced the lug a few times. Then he put the Devil's Steel Hand on the string and picked out the broken lug.

The surest way to change that terrible sensation that comes when a fishing job is necessary into the "grand and glorious feeling" that comes when the job is cleaned out is to see to it that a Devil's Steel Hand or Devil's Pitchfork is on the job. Immediate shipment—write for details.

BROWN

WELDING and MACHINE COMPANY

Main Office and Factory: Breckenridge, Texas
Rental Branch: 310 E. 3rd St., Tulsa

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LEADING EASTERN MARKETS SAY TOO EARLY YET FOR OPTIMISM

By N. O. Fanning

NEW YORK, Nov. 1.—"Too early yet for optimism" was the caution handed out to the writer by leading eastern marketers when asked regarding the outlook for the immediate future. The keynote of the situation seems to be that fundamental conditions operate against higher prices in all lines, the only question being as to whether further reductions are in order.

From the viewpoint of gasoline, the tankwagon market in the East is regarded as being more in line with actual conditions having to do with competition from Mid-Continent refiners, but still there is just enough margin to encourage sales under this market. The result is that in several widely scattered sections gasoline is being sold at a level below the prevailing tank wagon market, with retail prices correspondingly below the 17-cent level widely prevailing.

The above is true regardless of the fact that October has witnessed record consumption of gasoline for that month. In most sections it is stated that sales during October equaled or exceeded those during September, as the result of unusually warm and sunny weather. Unfortunately continued large production and topheavy stocks of both gasoline and crude have served to offset these favorable factors as far as their effect on prices is concerned. Tank car gasoline, delivered to the trade, brings between 10 and 11 cents per gallon, while sales of spot gasoline at refinery have been reported as low as 9½ cents. Tank car sales have been fairly large, but spot purchases are reported negligible.

With the price tendency of gasoline in the East toward lower levels, if anything there seems little likelihood of an advance in the price of crude petroleum or other refined petroleum products than gasoline, in the opinion of local observers. That is why they are urging, and practicing themselves, caution.

Favorable Factors

The same men who urge caution do not attempt to deny the existence of favorable factors and developments recently. The domestic production of crude petroleum tends downward; prices are considered so low as to be at rock bottom from the viewpoint of production costs, if they do not represent an actual loss. Indications point to heavy consumption this winter both here and abroad. But it is pointed out these factors are yet in too early a stage to measure their extent. As against these, are the facts which cannot be denied that stocks of crude oil are top heavy and that winter will bring a seasonal drop in consumption of gasoline, at present the most profitable product of crude oil.

The outlook for the oil trade during 1925 is uncertain, although the usual optimistic predictions have been made. One proof of uncertainty is the fact that eastern oil companies are not disposed to make contracts for oil for 1925 at advancing figures. Negotiations have long been under way between eastern and Pacific Coast oil interests looking toward renewal of contracts to deliver California oil to the Atlantic Seaboard, but it is not expected any large contracts will be closed, due to the fact that California producers want higher prices.

Eastern refiners do not feel, according to the best information obtainable, that they are justified in paying higher prices so long as production is such as to indicated continued low prices elsewhere. They expect to be able to do business on a more profitable basis with Mid-Continent or Gulf Coast producers.

Some who talk of higher prices base their predictions on the increased consumption of fuel oil and possibility of the oil industry getting higher prices for this product to offset the low prices for gasoline. They do not take into consideration the fact that fuel oil competes with coal wherever it is used, and therefore the price of fuel oil depends on the price of coal.

Current prices of bunker oil, Diesel oil, industrial fuel oil and furnace oil are such as to allow competition with coal, and are resulting in a much wider use of fuel oil. To raise prices now at the beginning of winter might jeopardize the growth of this market.

To Turn Back to Coal

One large shipping concern, when quoted a price of $1.81 per barrel for bunker oil at New York (the current spot price) for about 1,000,000 bbls. for 1925 delivery, has refused to pay that price, which is an advance of 25 cents over its 1924 contract, and threatens to turn back to coal. This is taken as an indication of what might take place in other instances in the event of a general increase in fuel oil prices.

It is also pointed out by oil men that bunker oil and other fuel oils are selling higher than at any time in the last three years, and that under present conditions the importance of selling as much oil as possible with consequent large reduction in stocks is paramount.

The biggest argument which coal producers have to combat the use of fuel oil is that the supply of the latter is limited and uncertain and therefore a big increase in prices can be expected after they have been converted to oil burning. The leading oil companies in the East have answered this by assuring their customers an adequate supply for one to three years ahead, and though they have not committed themselves as to prices, it is generally understood prices will compare favorably with the current prices of coal, allowance being made for the advantages of oil over coal.

There is no indication of a shortage of fuel oil, although stocks are not topheavy. Ample Panuco crude is being exported, which, together with the lighter fuel oil brought from California and the southwestern fields of the United States, goes to supply local needs. It must be remembered that crude in storage contains 40 per cent to 50 per cent fuel oil, if not a larger percentage.

Neutrals Mixed

Lubricating oil prices displayed a mixed tendency during the past week, firmness in certain of the cylinder stocks being offset by declines in red paraffin oils. Light filtered cylinder oil advanced ½-cent to 38½ cents. Red paraffins declined 1 cent per gallon for all viscosities.

The weakness in red paraffins is attributed to a smaller domestic demand, while the firmness in cylinder oils is attributable largely to improved export demand, and continued heavy domestic motor requirements.

Paraffin wax also showed irregularity. Lower melting points were strong, 120-22 advancing ⅜-cent to 6 cents per pound; 125-127 to 6½ cents, while 130-32 remained unchanged at 6½ cents, and 135-137 declined ½-cent to 7¼ cents. Export demand for lower grades has been unusually large during the last two weeks.

Kerosene Soft

There has been little to feature the domestic kerosene market in this territory, although price tendency is downward. Local prices have been out of line with other markets for some time, and a downward readjustment of 2 or 3 cents in the near future would not come as much of a surprise.

Export Trade Large

The past week in the export market was featured by continued good foreign demand for lubricating oils, especially red paraffins. Exports of all lubricants during the week consisted of 1,474,080 gallons in bulk; barrel shipments aggregated 31,257 bbls., and case shipments, 17,151 cases.

Bulk movement of all products was heavy. The bulk exports of gasoline amounted to 6,574,645 gallons, and of kerosene 10,333,088 gallons, the largest weekly figures reported in several months.

Paraffin wax continued to move in large volume, 2,427,920 pounds being exported.

Big Tank Car Exhibitor Chooses Cook's Paints

Painted with Cook's Aluminum Spar

You who were at the International Petroleum Exposition at Tulsa in October no doubt saw the aluminum painted tank car which was exhibited by the Quaker City Tank Line Company, Inc. It was painted with Cook's Rust Inhibitive Primer and

COOK'S ALUMINUM SPAR

This company chose Cook's Aluminum Spar because it is composed of finest aluminum bronze and high grade spar varnish; because it is a durable, practical paint for tanks and tank cars; because its heat reflecting qualities make it valuable in preventing outage and evaporation losses. If you would like to have your Shop Foreman test out this paint, drop us a line and we will send you a generous testing sample.

COOK PAINT & VARNISH COMPANY

Factories: Kansas City — Fort Worth

Branches: Oklahoma City — Dallas — Denver — Wichita — Omaha

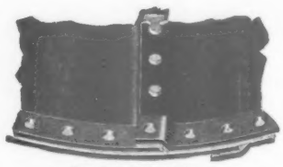
COOK'S

PAINT AND VARNISH PRODUCTS

Tank Buyers!

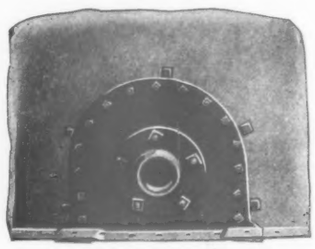
Note These Maloney Features

PATENTED SEAMS AND JOINTS. Note the crimp, or offset, which gives a scientifically exact fit and renders calking unnecessary.



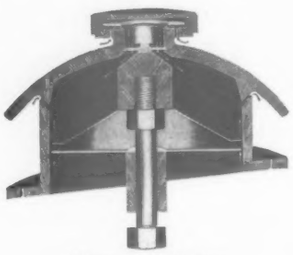
Patented Crimp

CLEANING-OUT OPENINGS. These are set flush with bottoms, giving no edge to catch scraper. A Maloney innovation.



Cleaning Out Opening

VACUUM-PRESSURE VALVES. In any styles and sizes desired, and of most improved design.



Flow Tank Valve

THIEF HATCHES. Decks, when desired, are equipped with Maloney 8-inch thief hatches.

MATERIAL. Is Keystone Copper Steel, the most highly rust-resisting material available for tank construction.

Thief Hatch

"Alone in Quality"

Maloney Tank Mfg. Company

Offices and Plant: Tulsa, Okla.

12 to 3,000 Barrels Capacity

Prompt, Dependable Export Service

MADE OF KEYSTONE COPPER STEEL

MADE OF KEYSTONE COPPER STEEL

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MALONEY
"ALONE"

against 3,444,540 pounds the week before.

Bulk Kerosene Shipments

Bulk exports of kerosene were so important as to justify a more detailed statement of cargoes. The tanker "Massis" left for Holland with 1,583,754 gallons of kerosene and 544,380 gallons of gasoline. The tanker "Wabasha" carried 2,108,791 gallons to India. The tanker "Scandia" left with 2,400,570 gallons of kerosene and 1,274,385 gallons of gasoline for Denmark. The "Amsterdam" carried a cargo including 2,067,121 gallons of kerosene bound for Holland, while the "American" left with 1,042,188 gallons for Belgium.

The following table shows principal exports of petroleum and petroleum products during the past three weeks:

	Week Ended		
Gasoline:	Oct. 29	Oct. 22	Oct. 15
Bulk (gals.)	6,574,645	1,806,527	1,166,286
Cases	244,247	136,399	183,592
Kerosene:			
Bulk (gals.)	10,333,088	.....	7,249,488
Cases	257,255	242,875	307,500
Gas oil:			
Bulk (gals.)	463,065	2,348,093	.....
Lub. oil.			
Bulk (gals.)	1,474,080	108,500	1,920,115
Barrels	31,257	34,081	24,846
Cases	17,151	18,321	7,002
Lub. grease:			
Barrels	2,534	3,015	.....
Cases	4,371	.....	.....
Paraffin wax:			
Pounds	2,427,920	3,444,540	2,260,940
Barrels	1,311	.....	.....
Pet. asphalt:			
Barrels	1,943	5,277	1,200
Pet. coke:			
Tons	*775	.....	596
Crude oil:			
Barrels	6,041	1,842	3,098

The largest single cargo of gasoline was carried in the tanker "Atlantic Sun," consisting of 3,314,187 gallons of gasoline for Holland.

Oil Receipts Low

Receipts of crude and refined oil at Atlantic ports for the week ended October 29 are estimated at 376,000 bbls. daily, against 546,000 bbls. the preceding week. A sharp decline in receipts from the Gulf Coast is noted, while a falling off in receipts from Mexico also took place.

Receipts from the Gulf Coast averaged only 184,000 bbls., the second week this month they have averaged less than 200,000. Therefore, the October receipts from the Gulf are expected to show a material falling off compared with September, when they averaged 270,000 bbls. daily. Receipts from the Gulf have been falling steadily since the peak was reached in July last.

Receipts from Mexico continue to fall off, while those from the Pacific Coast are holding up better than those from either of the other divisions.

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports from the Gulf and Pacific Coasts of the United States, and imports, for the last three weeks; also monthly record for the last 13 months (figures in barrels):

	Week Ended		
	Oct. 29	Oct. 22	Oct. 15
Gulf Coast	184,000	347,000	185,000
Pacific Coast	135,000	109,000	73,000
*Imports	57,000	90,000	59,000
Total	376,000	546,000	317,000
Daily Averages by Months			
Sept., 1924	270,000	104,000	101,000	475,000
August	310,000	127,000	84,000	521,000
July	318,000	85,000	114,000	517,000
June	302,000	133,000	136,000	571,000
May	276,000	122,000	144,000	542,000
April	262,000	143,000	123,000	528,000
March	201,000	137,000	130,000	468,000
February	174,000	175,000	108,000	457,000
January	127,000	159,000	79,000	365,000
Dec., 1923	184,000	153,000	119,000	456,000
November	186,000	141,000	110,000	437,000
October	200,000	164,000	133,000	497,000
September	155,000	146,000	107,000	408,000

*Imports all from Mexico.

REFINERS OPTIMISTIC AS TO THE FUTURE

(Continued from Page 90)

treatment of some kinds of steel this is another question. The steel companies have to have a lot of heat but not necessarily a lot of oil. The coming week will give a better outlook on the industrial situation and the probable demand for fuel oil by the manufacturing industries. The railroads have the crops and general freight in huge volume to move and they will need as much oil as they ever use, possibly their requirements will be at the peak this fall and winter. So much of the Smackover and similar heavy crude has been diverted to the South that little is being offered and the market practically as high as for refinery fuel.

Lubricating oils are doing a little better. There is some inquiry for heavy stocks. Zero oils have been good sellers for some time, the demand for these stocks being early. Refiners are able to make prompt deliveries as a rule. The export trade is rather quiet as seen from the market.

Tank Wagon Markets

Tank wagon prices are being cut in a few places but usually under unusual circumstances. At Council Bluffs, Iowa, due to the competition from Omaha where political gasoline merchandising has reduced the prices to the consumer, the service station price has been reduced to 13 cents. In Kansas City a price war has broken out between a couple of the smaller distributors and the station price has been cut badly. The larger companies have so far ignored the cut. It would seem that at the prices named the parties to the war would soon exhaust their resources in either cash or gas.

Man oil jobbers have undertaken the sale of furnace oil for the first time this season and their orders are undoubtedly increasing the demand on the refiner but the actual consumption depends not on the number of distributors but on the quantity consumed. A trip to a number of Chicago suburbs proved that many new installations were now in progress.

ROCKY MOUNTAIN AREA

(Continued from Page 46)

two years ago and found a gas flow that contained helium in comercial quantity. The Government has consulted with the Utah Oil & Refining Co. and has an agreement by which the helium is to be saved for use in the airships of the nation. The officials of the Utah Oil & Refining Co. asked that a plant for building these ships be estatblished near the Woodside structure.

Utah has had some queer wells in the past years, the gas from the well on the Woodside structure would not burn, and another well found a structure that carried carbon dioxide in the sands at a heavy pressure instead of the hydrocarbon gases usually found. The new strike at Cisco in Grand County is the first real gas well that has ever been struck in the State.

WYOMING PETROLEUM CLUB

CASPER, WYO., Nov. 1.—The Wyoming Petroleum Club held its first meeting for the fall season at Casper. The club will hold meetings every two weeks. Mark Danforth of the Midwest Refining Co. was the main speaker. Mr. Danforth showed that the proposed severance tax would become a weight on the oil industry of Wyoming that would be too heavy for the business to stand at this time. Mr. Danforth is tax commissioner for the Midwest and has the handling of all the tax payments. The oil industry is now paying taxes in Wyoming in excess of all other taxation, the land values of Wyoming showing a valuation according to recent assessments of $20,000,000 less than the oil business is charged.

CONCESSION IN NICARAUGA

A Managua, Nicaragua, dispatch says Robert J. McKinley of Kansas has obtained a 50-year oil concession from Nicaragua for departments of Bluefields, Chontales, Nueva Segovia, San Juan del Notre and Cabo Gracias and districts of Rio Grande, Prinza Polka and Siqqia, depositing $50,000 for franchise. Five wells must be drilled within five years and Government and municipalities will receive 14 per cent of gross receipts.

MIDWEST'S SHIPMENTS

CASPER, Wyo., Nov. 1.—The Midwest Refining Co. during the month of October shipped 6,000,000 gallons of gasoline to Baton Rouge, La., for export. The shipment is part of the Midwest's export contract which calls for a yearly delivery of 100,000,000 gallons.

The Comfortable Gas Engine-Compressor *to Operate* is that built by HOPE Vertical Type

A good measure of the real merit in a machine is the comfort with which you can run it. You wouldn't get any satisfaction in a car that you had to nurse along. Modern cars are nearly all comfortable to own. So, too, the Hope Vertical Gas Engine.

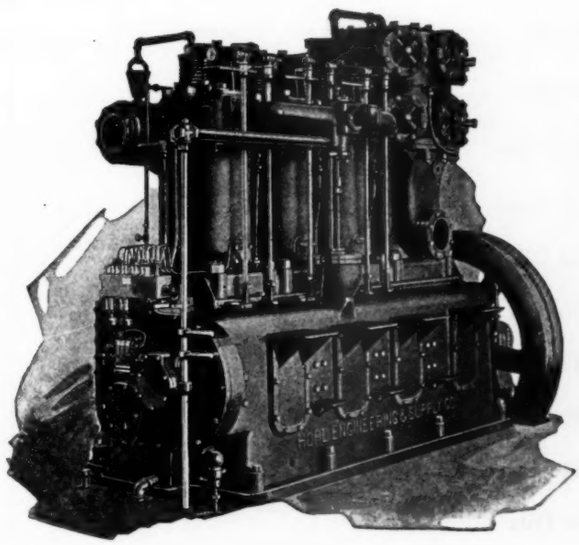
In the first place it is balanced, runs smoothly and without vibration. Nor does it depend on mass weight, it is modern, of the high-speed high-efficiency type. You don't need a red light burning over your panel-board of tools. There aren't any engine stuffing boxes to leak or troublesome adjustments to watch. The Hope Engine is trouble-free and—permanently so.

Modern in every element of its design, adapted to the requirements of gas pumping through the specialized knowledge of its builders, it is a safe and sound investment—for today and for years to come.

A sound investment, because when over-all costs of the engine-compressors, auxiliaries, installation cost, and the size building needed, are compared, the Hope Vertical Gas Pumping Units are the best buy on the market.

Smaller building, smaller foundation saves money. Lighter weight lessens freight and delivery costs, assembled delivery cuts time and labor of installing. Units can be moved and re-erected as easily. Operating costs always satisfyingly low.

Write us for illustrated descriptive literature



The Hope Biplane Valves are a distinctive feature of Hope Compressors. More ample port area and more sensitive valve movement maintain high efficiencies for Hope high-speed compressors.

ENGINEERS CONTRACTORS

HOPE Engineering & Supply COMPANY

DESIGNERS MANUFACTURERS

MT. VERNON, OHIO, U. S. A.

HES-9

TEXACO

REG. U.S. PAT. OFF.

TEXACO

Petroleum Products

HIGH GRADE UNIFORM QUALITY

Gasoline	Greases
Kerosene	Cup Greases
Fuel Oils	Gear Greases
Bunker Oils	Gear Lubricants
Diesel Fuels	Axle Greases
Signal Oils	Wire Rope Lubricants
Miners Oil	Pale Oils
Gas Oil	Red Oils
Distillates	Black Oils
Spindle Oils	Floor Oils
Motor Oils	Waxes
Engine Oils	Asphalts
Dynamo Oils	Road Oils
Machine Oils	Asphalt Cement
Cylinder Oils	Pipe Coating
Cylinder Stocks	Roofing
Car Oils	Roofing Paper
	Roofing Cement

THE TEXAS COMPANY

NEW YORK 17 Battery Place — CHICAGO McCormick Bldg. — HOUSTON The Texas Co. Bldg.

Offices in Principal Cities

Export Dept.: 17 Battery Place, New York City

N. LOUISIANA-ARKANSAS

(Continued from Page 44)

No. 1 Smith, Section 26-15-17; J. H. Meek, trustee, is rigging up No. 2 Laney, Section 30-15-15; J. D. Reynolds set 6-inch casing at 2,264 feet in No. 3 Brierton, Section 25-15-17, and drilling plug.

Ramage and others set 6-inch casing at 2,298 feet in No. 3 Jeffus, Section 25-15-17; Sims Oil Co. waiting on standard rig with 300 feet of oil and 4 feet of sand in hole at 2,025 feet in No. 4 Gaskin, Section 30-15-15.

Sun Oil Co. set 6-inch casing at 2,105 feet in No. 1 Hardin, Section 27-15-16; Sutton et al got 150 feet of oil at 2,297 feet in No. 9 Hughes, Section 28-15-16, and arranging to plug back. Hole is full of salt water at 2,315 feet.

Stephens Field

Morgan & Gaughan are rigging up No. 1 Morgan, Section 3-15-19.

Cotton Valley, Webster Parish

A showing of oil at 2,560 feet in the Louisiana Oil Refining Corp.'s first well on the H. C. Gray lease, Section 28-21-10, indicates a further extension of the Cotton Valley Field to the southwest. When bailing, the well made several heads of oil and showed 13 feet of sand. It is about 2 miles southwest of the Invincible Oil Co.'s No. 1 Lindsay and a quarter of a mile southeast of Evans & Raymond's No. 1 Coyle, and it is believed this well is on the western edge of the structure.

The Fortuna Oil Co. tested dry at 2,525 feet in No. 4 L. Merritt, Section 14-21-10, pulling liner to go deeper, and arranging to pump No. 3 S. J. Merritt at 2,524 feet, Section 14-21-10.

Humble Oil & Refining Co.'s Bodcau Lumber Co. B-1, Section 24-21-10, standing at 2,515 feet with 1,000 feet of oil in hole and 2½-inch tubing being set in 19 feet of sand; B-2, same section, standing with 1,500 feet of oil in hole and tubing being set at 2,520 feet; B-3 set 6⅝-inch casing at 2,490 feet, and No. 3 Merritt, Section 14-21-10, arranging to pump at 2,530 feet.

Moffatt & Murphy set 10-inch casing at 450 feet in No. 3 Pardee, Section 24-21-10, and at 438 feet in No. 1 Coyle, Section 24-21-10. Ohio Oil Co., bailing and will drill in at 2,485 feet in No. 3 Bank of Cotton Valley, Section 22-21-10; has a fishing job at 2,535 feet in No. 4 Bodcau, Section 15-21-10, and set 10-inch casing at 450 feet in No. 8 Bodcau, Section 15-21-10.

In the Spring Hill district, north end of Webster Parish, Belchic & Laskey started their first test on the Lloyd Harris holdings, and are drilling at 1,400 feet in No. 5 Pine Woods Lumber Co., Section 32-23-11.

Butler-McMurray Drilling Co., set 6-inch casing at 2,570 feet in No. 1 Baker, Section 34-23-11, and the Betheny Oil & Gas Co., is drilling at 2,020 feet in No. 1 T. R. Wiley, Section 1-22-10.

Six miles south of the Cotton Valley Pool, McDowell and others are drilling at 1,650 feet in No. 1 Hartman, Section 15-20-10.

Bossier Parish

In the Springhill district, G. W. Wetherbee is drilling at 1,910 feet No. 1 Bollinger, Section 32-23-11.

Coker and others are building derrick for No. 1 Rhodes, Section 31-31-11, 7 miles west of the Cotton Valley Field.

Skannall and others set 6-inch casing at 2,445 feet in No. 2 McDade, Section 10-17-12, 5 miles east of Shreveport.

In the Elm Grove district, the Standard Oil Co. is rigging up to drill No. 1 J. T. McDade in Section 31-16-11.

Caddo Parish

In Waskom district, south end of Caddo Parish, Glassell & Myers are rigging up to drill No. 1 Florsheim, Section 9-17-16, Waterman Drilling Development Co. rigging up to drill No. 2 Waterman, Section 18-17-16, and R. O. Wells and others rigging up to drill No. 1 Stringfellow, Section 19-17-16. The Waterman Drilling & Development Co. has a 6,000,000-foot gasser in No. 1 Waterman, but will drill deeper.

In the Pine Island district, The Texas Co. is drilling in sand rock at 1,710 feet in Hobbs A-6, Section 28-21-15, and Tholl Oil Co. at 550 feet in No. 12 Cyr, Section 22-21-15. Dixie Oil Co. is arranging to pump No. 64 Robertshaw, Section 13-21-15, at 1,663 feet.

In the Caddo Lake district, Gulf Refining Co. is down 4,325 feet in its deep test, No. 216 Ferry Lake, Section 15-20-16, and The Texas Co. is drilling in rock at 2,330 feet in No. 1 Federal Jeems Bayou, Section 15-20-16.

Claiborne Parish

El Dorado Chief Oil Co. set 8-inch casing at 2,020 feet in No. 1 McElwee, Section 13-22-7, 7 miles north of Homer.

Gulf Refining Co. is drilling at 3,135 feet in No. 1 Farmer, Section 35-23-6, 10 miles northeast of Homer.

Pomeroy and others are drilling at 2,440 feet in No. 1 Harman, Section 34-20-6, 8 miles southeast of Homer.

Woodley & Collins are rigging up to drill No. 1 Fortson, Section 28-21-5, 8 miles east of Homer.

Lincoln Parish

Considerable interest has been aroused by the reported showing of oil in 20 feet of broken sand at 1,220 feet in No. 1 Barrett, drilled by Buckner and others, Section 13-20-3w. They are going back to set 8-inch casing at 1,050 feet. The test is 14 miles north of Ruston and about half way between the Homer oil field and the Monroe gas field.

Morehouse Parish

Oil Field Exploration Co. set 6-inch casing at 2,320 feet in No. 1 Betz, Section 41-21-5, and Stovall Drilling Co. set 8-inch at 910 feet in No. 1 Fee, Section 27-21-4.

Ouachita Parish

Chester Carbon Co. is drilling at 2,000 feet in No. 1 Wetzell, Section 36-10-4; Dickson & Frue at 2,030 feet in No. 1 Goodwin, Section 24-18-2e, and Ladel and others at 2,130 feet in No. 30 Fee, Section 10-19-5 and at 1,300 feet in No. 31 Fee, Section 20-19-5.

Montgomery and others set 12½-inch casing at 182 feet in No. 1 Carter, Section 12-19-4; Southern Carbon Co., drilling at 2,050 feet in No. 39 Fee, Section 29-19-5 and at 1,560 feet in No. 41 Fee, Section 7-19-5, and The Texas Co. is drilling at 1,990 feet in No. 3 Ladel, Section 11-19-4.

Union Parish

Danciger Oil Co. is drilling at 2,000 feet in No. 1 Grayling, Section 32-21-4e, half way between Farmerville and Bastrop.

Natural Gas Producing Co. is drilling at 1,675 feet in No. 2 Grayling, Section 8-21-4e, between Farmerville and Bastrop.

Winn Parish

Galloway & Arrendale set 10-inch casing at 200 feet in No. 1 McCarty, Section 5-12-1w, 10 miles northeast of Winnfield.

Columbia County, Arkansas

In the Stephens Field, Magnolia Petroleum Co. set 6⅝-inch casing at 2,056 feet in No. 2 J. R. Hammond, Section 25-15-20, and rigging up to drill No. 2 Watson, Section 36-15-20.

Russell and others drilling at 1,650 feet in No. 1 Emerson, Section 7-19-19.

Hempstead County

Fullilove Drilling Co. is drilling in salt water sand at 2,150 feet in No. 1 Ford, Section 31-14-23.

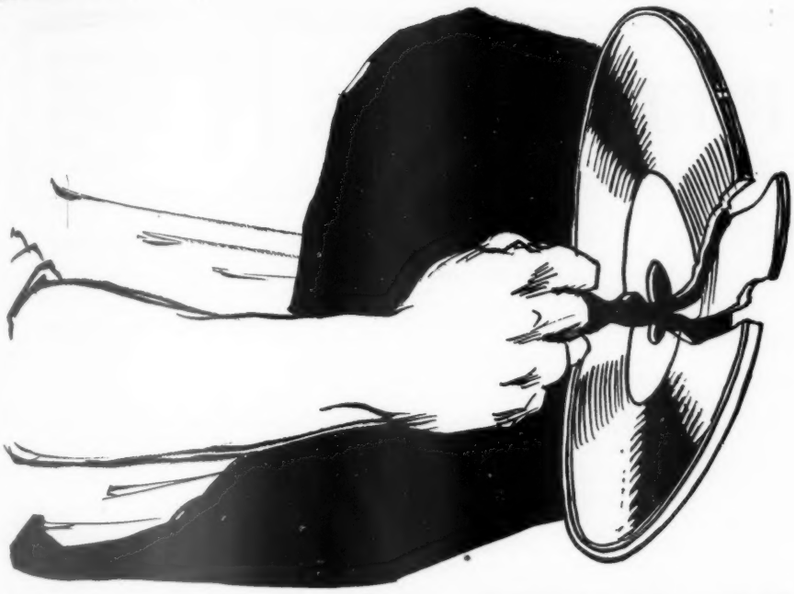
Little River County

Gaines and others are drilling in shale at 3,600 feet in No. 1 Goodrun Timber Co., Section 15-13-29.

One of the most interesting wildcats in sight is that of P. F. O'Brien and others in Union County, Arkansas. The well is in the SW cor. NE NE, Section 13-19s-17w on a line between Haynesville and El Dorado, about half way between the two pools. The well will be drilled on a 3,000-acre tract owned in fee by Mr. O'Brien and associates, and a number of the major companies have acquired large blocks of acreage in the vicinity.

BERGIUS PROCESS IN BELGIUM

A group consisting chiefly of the Acieries Reunis of Brabant-Eich-Dudelange and the Bank of Brussels has asked the Belgian Government for exclusive rights to the exploitation of the Berguis patents in that country. The request has not been granted and the matter is still under discussion.



Another Record Smashed with no. 6

TITUSVILLE ACME ROTARY EQUIPMENT

"The Rig with the Punch"

Waggoner and McKinley
ROTARY DRILLING CONTRACTORS
P.O. BOX 877
LULIP S, TEXAS

September 15th 1924

Titusville Iron Works Co.,
Titusville, Pa.

ATTENTION: MR. McCOLLUM

Gentlemen:

It may perhaps be of interest to your company to know that the two Number Six Acme Rigs which we are using in this field are giving us the greatest possible satisfaction.

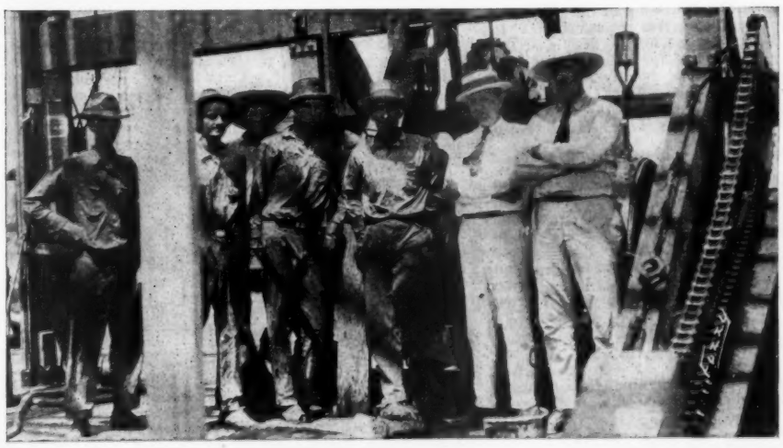
On August 15th we started the Rigs # 13 of the United North & South Oil Company, and on August 21st completed the setting of 2092 feet of 6-5/8" Casing, having made a record run for this field of five days and nineteen hours, as against the former record of seven days five hours, which was the best made until this time.

We are also making far better than the average time with these rigs on our other locations, and feel that we cannot speak too highly of the merits of these outfits.

Yours very truly,

WAGGONER & McKINLEY

By H. L. McKinley



The Waggoner McKinley crews who worked with Titusville Equipment in making this new record are: H. L. Rudolph, J. R. Myrick, R. Hathaway, V. E. Tarbutton, W. O. Head, E. W. Hargrove, B. F. Bissonnet, O. B. Jennings, S. G. Uzzell and C. W. Evans.

The TITUSVILLE IRON WORKS Co.

TITUSVILLE - PENNA.

TITUSVILLE EQUIPMENT
Oil Country Boilers
Steam Drilling Engines
Tico Gas Engines
Flapper Valve Pumps
Pumping Powers
Twin Drilling Engines
Rotary Machines Rotary Drawworks
Swivels Slush Pumps
Crown Blocks
Traveling Blocks
Rotary Drilling Specialties

TITUSVILLE OIL COUNTRY MACHINERY

RUGGED - ENDURING

AFFILIATED COMPANIES FOR DISTRIBUTION
For Mid-Continent, Eastern, Western and Coastal Fields:
The Continental Supply Co.

For California:
The Republic Supply Company of California

For Export:
The Continental Well Supply Company,
No. 2 Rector Street,
N. Y. City

25 CENTS per line first insertion; 15c per line each additional insertion. Cash in advance.

CLASSIFIED WANTS

MAIL your advertisement now. It will be published next week. Cash with order.

FOR SALE—EQUIPMENT

FOR SALE—Bessemer gas engines 15 to 165 h. p. A lot of others up to 350 h. p. Belt and direct drive compressors. Oil and steam engines. Generators and compressors. R. W. Russell, St. Mary's W. Va.

FOR SALE—We are wrecking a lease at Augusta, Kans. Casing of all sizes from 5⅛-inch to 15½ inch and about 10 miles of 2-inch line pipe and 1 mile of 4-inch line. Steam engines, gas engines, 15 electric motors and all sizes of tanks. All other equipment necessary for running a producing lease. All this material in first class condition. If interested call or write, El Dorado Iron & Supply Co., El Dorado, Kans.

FOR SALE—Natural gas condenser (Kilgurst type) 1,000,000 feet capacity, with 4,000-gallon steel tank. Address Wm. C. Zimmer, care Helm Hotel, Bowling Green, Ky.

FOR SALE—150 feet of 70-pound 15½-inch; 1,000 feet 40-pound 10-inch; 2,700 feet 8¼-inch 32-pound 8-thread and 3,400 feet of new 24-pound 6¼-inch 10-thread J. & L. Woodlawn. Special casing; 100,000 feet of 2-inch line; 20,000 feet of 2-inch tubing and rods; also excellent powers, engines, tanks and other equipment. J. F. Arnold Co., Decatur, Ind.

ADVERTISING RATES

The cost of advertising in the Classified Wants Section is very reasonable. It costs 25 cents a line for the first insertion and 15 cents a line for each following insertion. Six words usually make a line. Cash with the order, please.

Use this table to figure the cost of advertising in the Classified Section. Keep it for reference:

	One Time	Two Times	Three Times	One Month
3 lines ..	$ .75	$1.20	$1.65	$2.16
4 lines..	1.00	1.60	2.20	2.80
5 lines..	1.25	2.00	2.75	3.50
6 lines..	1.50	2.40	3.30	4.20
7 lines..	1.75	2.80	3.85	4.90
8 lines..	2.00	3.20	4.40	5.60
9 lines..	2.25	3.60	4.95	6.30
10 lines..	2.50	4.00	5.50	7.00

ENGINE FOR SALE—75 h. p. Weber Natural Gas Engine—13 inch bore, 15 inch stroke, 2 cycle. For further information write Franklin Hudson, care Mayor Hadley, Stroud, Okla.

Watch This Space From Time to Time for Real Bargains
MATHESON STEEL PIPE
For Immediate Shipment

Approximately 24,000 feet of 8-inch and 10,000 feet of 6-inch Matheson joint steel pipe, new of first quality grade, in lengths of 18 to 20 feet, dipped both inside and outside with tar paint. We have a real bargain price on the entire lot, or, we will split it up in lots to suit the buyer. This pipe is especially adapted for gas and water lines.

We also carry pipe for all purposes, thoroughly reconditioned with perfect threads and collars, practically good as new, at a considerable reduction in price.
JOS. GREENSPON'S SONS IRON & STEEL CO.
Department O St. Louis, Mo.

WRITE your advertisement, mail it to The Oil and Gas Journal, and it will be placed in the hands of thousands of producers and refiners in all parts of the world. It doesn't cost much.

SPECIAL SALE OF TRAILERS
Roller-bearing steel trailers; 1½- and 2-ton capacity; complete or parts for same at bargain prices; come and see them. Reedy Auto Truck & Trailer Co., 900 N. Xanthus, Tulsa, Okla.

FOR SALE—EQUIPMENT

FOR SALE

Eleven De Laval Steam Driven Oil Separators—Type 601

These machines are in first class condition and have copper lined bowls and copper Tinware.

This Is a Real Bargain

Communicate with

Purchasing Agent

H. F. WILCOX OIL & GAS CO.

Wilcox Building Phone 8231

Tulsa, Okla.

LEASES—PRODUCTION

5,000 ACRES oil lease given free or we will give half interest in our 10,000-acre lease to any company, corporation, or party who will drill a test well or finance the drilling of a well to a depth of 3,000 feet. Our holdings are located in East Tennessee, near Knoxville, and from the latest Government oil and gas map, we are located in line with the Pennsylvania and West Virginia oil fields. Our leases are all complete, free from encumbrances and ready for driller at any time. We have spent considerable time in the oil fields in different parts of the country and will say that we have a structure that shows very favorable indications of a large body of oil. We feel sure that someone should be interested in the proposition of drilling a test well on our boundary. I will be pleased to hear from interested parties. R. H. Whittle, Knoxville, Tenn.

SURE SHOT drilling contract; 40 acres. Sections 20, 21 and 13, Block Y, Hutchinson County, Texas. One mile from Prairie's big well in Section 23. R. P. O'Grady, Suite 2, Old Post Office Building, Amarillo, Texas.

THE SMALL SUM that it costs to insert an advertisement in the Classified Section of The Oil and Gas Journal enables you to place your desires in the minds of men who are always interested in a good proposition.

FOR SALE—Some choice leases and royalties in the famous Tonkawa district. For particulars address P. O. Box 1273, Tonkawa, Okla.

LEASES—PRODUCTION

FOR SALE 7 bbls. production, Warren County, Kentucky. Address Box 496, Bowling Green, Ky.

FOR SALE, 70,000 acres of lease near Mier, south of Mirando Field; good geology. Leases run for 60 years; very cheap rentals. Address, Room 402, California Building, Denver, Colorado

FOR SALE 38,000 acres oil and gas leases, approved form. Breckenridge County, Ky., part joining block on which English Syndicate now drilling 4,000-foot test. ⅛ royalty, 25c rental, first rental due October 1925. Priced right for quick sale. Splendid opportunity for large interests. Write Box 32, Winchester, Ky.

A GOOD INVESTMENT
Four sections of land in fee, in extreme northeast part of Collingsworth County, Texas. This land is in the trend of oil; deep test being drilled 3 miles west; one-third is good farm land, balance good grass; plenty of spring water. Priced for quick sale at $10 per acre. Come look it over. It is a real bargain. Hal H. Vaughan, Shamrock, Texas.

NORTH TEXAS
Shallow field leases, including offsets, at low prices. Offsets to producing leases in Archer County have sold as high as $9,000 cash per acre. Chance for excellent profits. Write for maps and prices. P. R. MacIntosh, 215 Neil P. Anderson Bldg., Fort Worth, Tex.

I have block of leases in Montgomery County, Kansas, on excellent geology. Will sell half interest in 320 acres, all on structure, with well drilled to Wilcox sand for $5,000, or will sell entire block, reserving small piece of acreage for myself. Address—
STEPHEN B. NELSON
Box 1390 Tulsa, Okla.

POTTAWATOMIE and Seminole County acreage. B. H. Rowlett and Company, Tecumseh, Okla.

3,000 ACRES lease in Kentucky, including three commercial gas wells and complete drilling outfit. Will sell part of these leases or preferably have someone develop leases on a percentage basis. New oil well near. No stock promotion will be considered. Anyone interested on a sound business basis, write to W. S. Haldeman, Monmouth, Ill.

FOR SALE
A 15-acre producing lease at High Island, Texas. One well came in at 250 bbls., now producing about 10 bbls. Grade "A" Coastal; depth 149 feet.

Equipment consists of two derricks, one gasoline rotary rig, completed; 1½ miles pipe line to loading rack; three pumping engines, casing and tubing; 8,000 bbls. of new Parkersburg steel storage tanks; 1,300 bbls. of crude in tanks goes with lease. Price on application.
CARTER AUTOMOBILE CO.
2322 P. O. St. Phone 1240
Galveston, Texas

FOR SALE—An unincumbered Indiana charter for $500; exempt from Blue Sky Laws. Will sell or combine with leases and production. Address Tico, Box 179, Peru, Indiana.

EASTERN NEW MEXICO
Oil Lands—320 acres patented land on Maning Dome; all oil and mineral rights to go with it; abstract title; price $7.50 per acre. Wire or write J. F. Rogers, Box 582, Roswell, N. M.

FOR SALE—Oil leases and royalties. New developing field. Five wells going down. Kingfisher and Logan Counties. H. M. Godfrey, Crescent, Okla.

ROYALTIES—In Routt and Moffat Counties, northwestern Colorado. Buy now and get in early on this important field. F. W. Thomas & Co., Mount Harris, Colo.

LEASES—PRODUCTION

J. F. MARION COMPANY
Magnolia Building
Dallas, Texas
Buys and Sells
Texas and Oklahoma
Producing Royalties
"Ask Us First"

SOUTHEAST New Mexico is having real boom; many new wells starting; big opportunities for investors; write for leases prices and map. Orcutt-Harris & Co., Colcord Building, Oklahoma City, Okla.

LOOK—Royalty offset to drilling in real oil country (near Powell). Frank Poorman, 3215½ Ross Ave., Dallas, Tex.

I HAVE a block of 10,000 acres of oil and gas leases in Township 17-8 in Kingfisher County, Oklahoma, on which I wish to secure a drilling contract for acreage. These leases are all on 88 form producers, and no rentals due until January 1, 1926. E. F. Freeman, Box 823, Enid, Okla.

OIL AND GAS LEASES
On Marathon Fold

20,000 acres, new 20-year, 88 Form lease; Pecos County; 10 cents rental.

18,000 acres, University permits, dated October 1, 1924, joining University permits of Sun Oil Co. and Gulf Production Co. Transcontinental now drilling and three more well to start. Price reasonable.

20,000 acres 10-year leases, Crockett County; large and small blocks.

5,000 acres 10-year lease; close to drilling wells; Reagan County.

3,200 acres University permits, Reagan County; close to Big Lake Oil Co. and Texon Oil & Land Co. producing wells. Want drilling contract.

3,000 acres 10-year lease, Upton County; near drilling well and joining leading company holdings. Prices and maps on request.
C. W. WEBSTER
1001-1003 W. T. Waggoner Bldg.
Fort Worth, Texas

FOR SALE—Leases close to Marshall-Degenther test going down on Swanner lear in Franklin County, and near Wood County line. Called Scroggins well. On good structure, defined by reliable geologists, as well as being O. K'd by Henry Zachary; 5-, 10-, and 25-acre blocks one-half to 3 miles, $2 to $25 per acre; well drilling at about 1,700 feet; strong oil and gas showing at about 900 feet. Salesmen wanted. R. W. Dykes, Box 400, Kinnsboro, Texas.

JUST THINK. $2.80 will pay for sending a four-line advertisement all around the world four times. A four-line Classified Advertisement usually consists of 24 words and you know a great deal can be told in a few words. Mail your advertisement to the Classified Section now so that you will get in next Thursday's issue.

S. E. NEW MEXICO
FOR SALE—Protection acreage on Manning Dome offsetting holdings of Arkansas Fuel Oil Co. and the Ohio Oil Co. Guaranteed to be on structure. Price $3 to $5 per acre. W. H. McCullough, Roswell, N. M.

FOR SALE—At bargain prices, oil and gas leases, production and royalties in the Kentucky shallow fields. For full particulars and maps, address W. P. Harley, Bowling Green, Ky.

25 CENTS per line first insertion; 15c per line each additional insertion. Cash in advance.

CLASSIFIED WANTS

MAIL your advertisement now. It will be published next week. Cash with order.

LEASES—PRODUCTION

PRODUCTION—Large or small; drilling acreage, leases, royalties. Make specialty of fee acreage. Large acquaintance in Wichita, Clay, Baylor, Archer, and Wilbarger Counties. Stehlik & Baber, Kemp Hotel, Box 467, Wichita Falls, Texas.

WANTED—Producing royalties. Oklahoma and Kansas. Give full details. P. O. Box 502, Independence, Kans.

CONTRACTORS

C. B. CASENBURG
General Contractor
El Dorado, Kans. Shilder, Okla.
Oil field construction work of all kinds.
Rig Building
Gas Engine Setting
Installation of Powers
All Work Guaranteed
Estimates Cheerfully Given
Write Us

TANK TABLES

GUARANTEED TANK TABLES
Tracings, $2.50 to $5, according to size of tank. White cloth prints, 75c to $1.25 each. Blue prints, 25c to 75c each. Send strapping report and instructions to H. F. Heydrick, 208 South Twelfth St., Muskogee, Okla.

POSITION WANTED

POSITION WANTED—Treater with 15 years' experience on lub oils, pressure distillates and light oils. Address Treater, The Oil and Gas Journal, Tulsa, Okla.

SUPERINTENDENT—Technical graduate; has had five years' practical experience in oil production and natural gasoline manufacturing. Have charge of four plants for small company; desire similar position with large company. Box A-464, The Oil and Gas Journal, Tulsa, Okla.

CAN SUPERINTEND many factories. Contractor and builder of carbon black factories, can tell the different grades; have had 20 years' experience. Can look after drilling. Box A-443, The Oil and Gas Journal, Tulsa, Okla.

WHITE SPACE at the top and bottom of an advertisement makes it conspicuous. Ask for it in your next advertisement. Figure the cost at regular rates per line.

LIGHT OIL MAN—Refinery man with 10 years' experience, from loading rack to general superintendent, wants good connection. Practical man. Address Box A-400, The Oil and Gas Journal. Tulsa, Okla.

WANTED—"Live wire" Mid-Continent representative. Prefer engineer or salesman now covering the territory who can handle our attractive proposition with present line. Address Box A-401, The Oil and Gas Journal, Tulsa, Okla.

M. C. B. & A. R. A. accountant, thoroughly familiar with all phases of car repairs and operation of tank line. Write Louisiana Steel Car Co., 864, New Orleans, La.

POSITION WANTED—Refinery superintendent; 18 years' experience; will go anywhere. Address Box A-410, care The Oil and Gas Journal, Tulsa, Okla.

I WOULD like to represent some substantial equipment firm in new Colorado oil fields. Would invest in moderate way if required. Box 1393, Greely, Colo.

AGENTS WANTED

SALES AGENTS wanted to sell our products as a side line to Oil Producers to stop that rot on derrick and other timbers, as many are doing. Liberal commissions. The C-A Co., 6229 Delmar Blvd., St. Louis, Mo.

HELP WANTED

SALESMAN—One thoroughly familiar with the cracking process and able to sell heavy machinery with half a century's reputation behind it. Age, preferably between 30 and 40. Give full information in first letter. Box A-471, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Active young single man, capable of handling branch warehouse records, who is thoroughly familiar with oil field supplies. Answer in own handwriting; give references, salary, etc. Address Box 1062, Tulsa, Okla.

LARGE and well known manufacturer of gas and oil engines desires services of high class salesman. Preferable one having large acquaintance in the Mid-Continent and other oil fields, and fully familiar with power requirements for beam well, band wheel power, general pumping and gas compressor service. Applicants should give complete information as to previous experience, age, salary expected, etc. Box 800, The Oil and Gas Journal, Tulsa, Okla.

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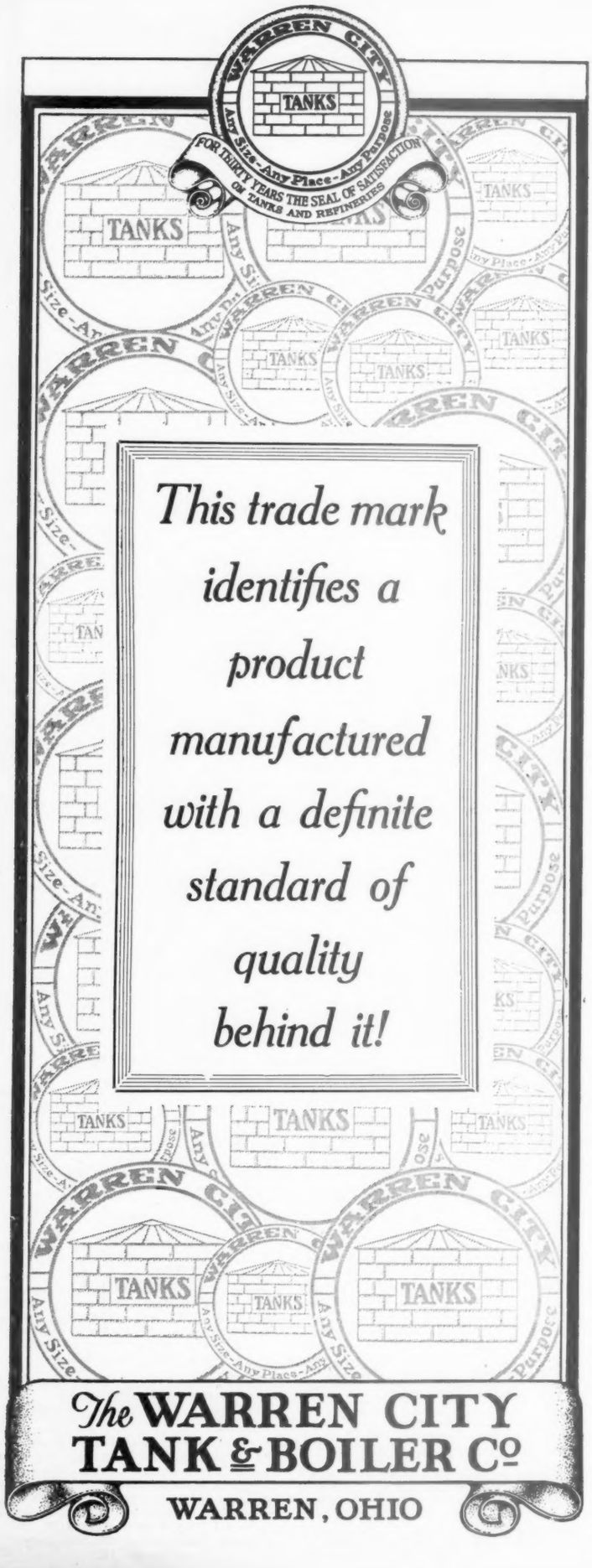
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CANADIAN FIELDS

(Continued from Page 44)

further locations have been made by this company, pending the completion of No. 3 well, Section 29-45-6w-4. No. 3 is reported to have encountered a second oil sand with deeper drilling, and cement and other materials are being assembled, preparatory to putting the well in shape to test this sand. Pumps are being installed to handle the production of British Petroleums No. 2, Section 30-46-6w-4, and British Petroleums No. 4. The latter is flowing a little oil right along, which is being hauled in tank wagons to No. 5 for use as fuel under the boilers. As soon as the pumping plant is installed the two producing wells will be given a definite capacity test. It is reported that the deepening of B. P. No. 1 gasser, Section 36-45-7w-4 is being considered.

West of Wainwright

West of Wainwright, the Wainwright Oil Producers Syndicate, Section 36-44-7w-4 is reported drilling steadily with a standard outfit. Western Consolidated, Section 20-45-6w-4 has been shut down for casing. A merger has been recently effected of this company and the Crown Oil Co. of Edmonton and it is understood the two companies will pool their resources for the completion of the Western Consolidated test. It is probable a number of other companies interested in the Irma-Wainwright area will pool their resources to finance some definite drilling.

British Wainwright Oil Co., Section 22-45-6w-4 is rigging up for a test with a heavy standard outfit. The Great West Producers & Refiners Co. recently incorporated under Dominion charter, is planning to build a lubricating refinery at Wainwright if sufficient heavy crude production is shown. An initial plant of 400 bbls. capacity is contemplated.

Southern Alberta

In southern Alberta, the Canadian Oil & Refining Co. No. 1, Rogers-Imperial well, Section 29-1-11w-4, is shut down. Bailing recently to 500-foot depth caused the gasser to blow out. Imperial Oil, Ltd., Dead Horse Coulee No. 2, north of the Rogers-Imperial, is drilling steadily and is around 1,000 feet down. A. M. McDermid of Calgary, is organizing a syndicate to test an 80-acre lease in Section 33-35-1w, in the Kevin-Sunburst Field. The town of Taber is negotiating with the Canadian Western Natural Gas Co. for a gas supply.

Ontario Fields

In the Ontario Fields, E. P. Rowe is drilling a shallow test in Zone Township, north of Thamesville, and a short distance northwest of the deep test on the Featherstone farm. The shallow test encountered a small pocket of gas on top of the rock, which, however, is reported to have blown itself out. It will be carried to about 600 feet to test the oil possibilities of the lower horizons of the Onondaga limestone. In Elgin County, the St. Thomas Oil & Gas Co. is reported to have developed additional production in another shallow test near Iona. In Lambton County, a Pennsylvania syndicate represented by W. W. McRae of Petrolia, is reported to have let a contract for five shallow tests on the Petrolia-Enniskillen town line; 15 additional tests to be drilled if satisfactory production is secured.

East Central Alberta

At Edmonton recently a delegation representing interests connected with development in the Irma-Wainwright Field of East Central Alberta held a conference with Charles Stewart, Minister of the Interior. The committee presented the following suggestions:

That the Government take steps to amend the existing oil regulations so as to provide for the fixity of contract in petroleum leases; that a bonus be given the first company to bring in a high production well in the Wainwright area; that the Government undertake to drill one or two wells to determine the possibility of the Wainwright territory; that a Government commission be appointed to investigate present conditions and prospects in the Wainwright oil field. It was particularly urged that clauses in the existing regulations permitting the regulations to be changed by order in council or by the minister himself militated against stability in the oil situation and discouraged development.

Mr. Stewart said he would endeavor to meet this demand in some measure; but he held out no hope of a Government bonus for the first high production well, Government drilling or a commission to determine the present actual conditions and prospects in the field.

CALIFORNIA FIELDS

(Continued from Page 52)

test of the Ocean View Oil Co.'s well No. 2 in the old Whittier Field showed it to be capable of pumping 100 bbls. of fluid from 3,425 feet, about 40 per cent of which is water. The only development of interest in the new Inglewood Field was the hauling in of material for a rig by the Pan-American. The company has acquired a 40-acre lease about a quarter of a mile northwest of the Standard's Los Angeles Investment Lease No. 2. The Shell did not make any new hole in No. 1 Loomis, its Bell wildcat, and it would not be surprising if the company pulled out. The same company has finished rigging up No. 1 Virginia at Los Cerritos, northwest of Long Beach, and should spud in during the coming week.

The Associated's No. 1 McNally at La Mirada is still dry at 5,500 feet, as is also the Standard's No. 1 Culp, a few miles away at Los Nietos. The Superior made a test of its North Whittier Heights well in Turnbull Canyon, but the showings which looked so good a week or so ago did not result in production. The Rancho de la Puente Oil Co. is makin gpreparations to abandon its San Jose Hills wildcat as a dry hole at 4,416 feet. J. M. Danziger has secured a lease on a part of the Didier Ranch, also in this general vicinity, and is scheduled to begin drilling within the next 30 days.

San Emidio Wildcats

The Standard is making slow progress in its two wildcats near San Emidio No. 1 on Section 28-11-22 showing 2,000 feet of hole and No. 1 on Section 5-10-22 about 400 feet. The General Petroleum is drilling in a tough shale at 2,300 feet in its Comanche Point test on Section 31-12-18. The Marland has filed an abandonment notice on No. 1 Ferguson at Lost Hills, which was drilled to 5,000 feet, and is pulling out. The Standard, on Section 5-27-20, is still going ahead, however, and shows 2,570 feet of hole. Neither the Union Oil Co.'s No. 1 Wisecarver, on the McKittrick front, nor No. 1 Brown at Rio Bravo, has shown any encouragement to date. The former is drilling ahead at 4,800 feet, while the latter is going ahead at 4,192 feet.

There was very little progress made in development work being done on the Kern River Bluffs, near Bakersfield, as both the Pan-American and St. Helens Petroleum are held up by fishing jobs. On Section 36-28-28 the Central reported a slight showing at 2,380 feet but the company will not make a test at present. When E. J. Miley ran into a fishing job a short time ago in No. 1 Kreyenhagen, on Jacalitos Dome, it was believed the recovery would be a speedy one, but the hole at 4,758 feet is still full of junk. Very little prospect is held out for an early resumption of drilling.

The General Petroleum secured a successful shutoff in No. 1 Oschener in the Kettleman Hills and resumed drilling at 5,310 feet. The Associated, on Section 12-23-18 is still standing idle, while the Bolsa Chica, on Section 30-23-19, and the Marland on Section 12-21-17, are rigging up to go ahead. The Ring Oil Syndicate's South Mountain well proved dry on a production test at 3,550 feet and the company has decided to make about 200 feet more of hole.

There were no developments of importance in the Hovey Hills, although the Bell Evans Oil Co. and the Victor Oil Co., both operating on Section 35-32-23, are making preparations to complete pumpers. The Kendon, on the same section, is having considerable trouble with water and a heaving sand in its well No. 3 at 2,540 feet.

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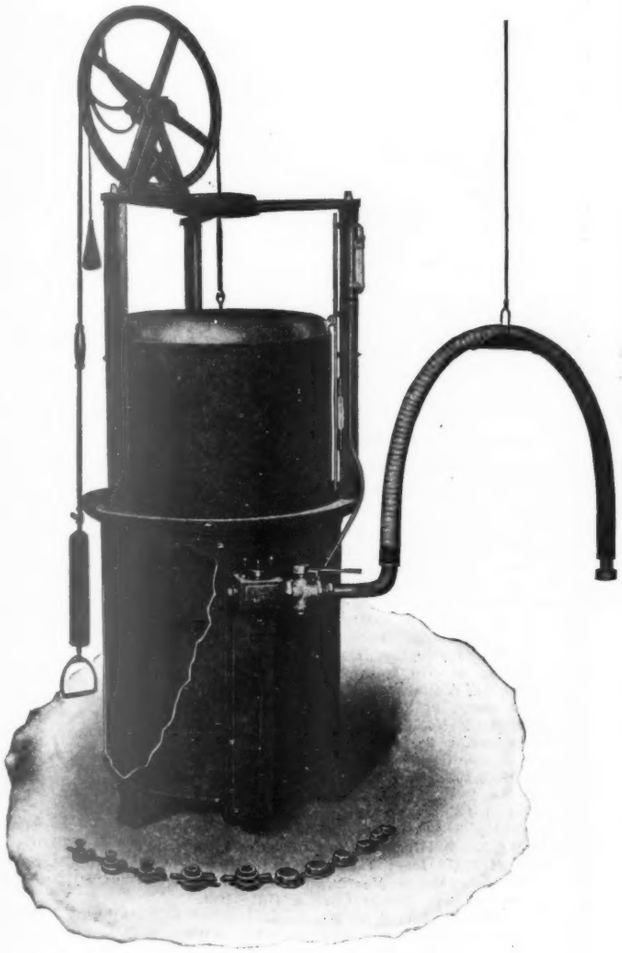

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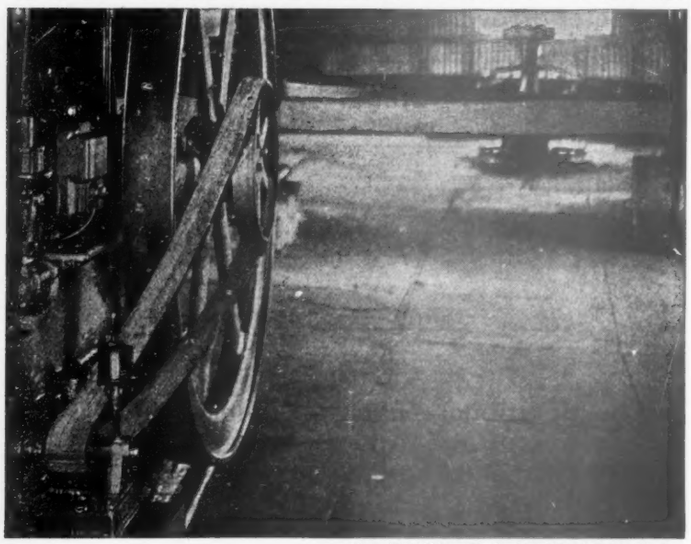

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GOODYEAR

NORTH CENTRAL TEXAS

(Continued from Page 36)

Lee Wilson's No. 3 Jordan, drilling oil sand at 1,185 feet; Archer Oil Corp.'s No. 1 Farmer, drilling at 1,445 feet; Gwynn and others' No. 1 Farmer, drilling in shale at 1,100 feet; Magnolia Petroleum Co.'s No. 1 Robertson, drilling at 1,355 feet; Panhandle Oil & Refining Co.'s No. 2 Llewellyn, may be abandoned at 1,400 feet; Skinner and others' No. 1 Dugan, coring dry sand at 1,580 feet; Tucker and others' No. 1 Farmer, drilling at 200 feet.

Young County Drilling

Brian and others' No. 1 Vernon, drilling at 715 feet; Burton and others' No. 1 Lewis, drilling at 580 feet; Cheney and others' No. 1 Harrison, running 10-inch casing at 1,030 feet; No. 5 Driver, showing a little oil and will shoot at 1,905 feet; Dunn and others' No. 1 Johnson, straightening hole, total depth 4,240 feet; Herbert Oil Co.'s No. 1 Johnson, drilling in soft rock at 2,250 feet; Litchfield and others' No. 1 Campbell, drilling in brown shale at 640 feet; McGarr and others' No. 1 Johnson, flowing some oil at 3,925 feet; No. 1 Scarborough, fishing for casing at 2,550 feet; Monroe Production Co.'s No. 1 Cheney, drilling at 1,605 feet; Nash and others' No. 1 Williams, running 8¼-inch casing at 1,825 feet; Simms Oil Co.'s No. 1 Willis, drilling at 2,785 feet; Stovall and others' No. 1 Stovall, fishing for casing at 3,150 feet; Union Oil Co.'s No. 1 Keithley, cleaning out at 3,052 feet; Vance and others' No. 1 Davis, cleaning out at 1,425 feet.

Stephens County Completions

Texas Pacific Coal & Oil Co.'s No. 1 Hand, acct. 2, dry at 2,130 feet; Welch and others' No. 2 Sandidge, dry at 2,180 feet.

Stephens County Drilling

Critten and others' No. 7 Cobb, drilling at 3,010 feet; No. 8 Cobb, drilling at 500 feet; Hoffer Oil Corp.'s No. 1 Webb, underreaming for 6-inch at 2,760 feet; Ivan Petroluem Co.'s No. 2 Martin, shut down for cement to set at 4,010 feet; Liner and others' No. 2 Brown, fishing for casing at 3,250 feet; Mid-Kansas Oil & Gas Co.'s No. 3 Lee, underreaming for 12½-inch casing at 1,050 feet; No. 2 Williams, drilling at 1,110 feet; Pender Production Co.'s No. 3 Keel, drilling at 610 feet; Pierce and others' No. 1 Crudington, traying to reset 5-inch casing at 3,420 feet; Prairie Oil & Gas Co.'s No. 15 Atkins, cementing 5-inch casing at 3,263 feet; No. 2 Caldwell, 8 and 10-inch casing collapsed, total depth 3,195 feet; Raney Buckeye Oil Co.'s No. 2 Walker & Caldwell, fishing for bit at 4,450 feet; Snowden & McSweeney's No. 8 Acker, cleaning out at 3,040 feet; No. 5 Higginbotham, fishing for tools at 3,273 feet; Texas Consolidated Oil Co.'s No. 6 Martin, drilling at 400 feet; Texas Pacific Coal & Oil Co.'s No. 5 Rogers, fishing for 5-inch casing at 4,530 feet; Walker and others' No. 4 First National Bank, swaging casing at 1,750 feet; Carter and others' No. 1 Jennings, will set 8-inch casing at 2,106 feet; Humble Oil & Refining Co.'s No. 10 O'Laughlin, underreaming 8-inch casing at 2,595 feet; Landreth Oil Co.'s No. 1 Ward, setting 8-inch casing at 2,170 feet; Magnolia Petroleum Co.'s No. 9 Brown, drilling at 3,595 feet; No. 7 Brown, drilling at 1,800 feet; No. 8 Brown, drilling at 640 feet; No. 1 Taylor, drilling at 3,650 feet; McLester and others' No. 1 Robertson, trying to reset 6-inch casing at 3,530 feet; Pender Producing Co.'s No. 1 Hart, drilling at 1,750 feet; States Oil Corp.'s No. 1 Boles, drilling at 1,750 feet; No. 1 Hall, drilling in gray lime at 3,810 feet; The Texas Co.'s No. 10 Curry, fishing for casing at 2,668 feet; Triplehorn Oil Association No. 1 Adams, cleaning out at 3,652 feet.

Eastland County Completions

McMeans and others' No. 1-A Storm, dry at 675 feet.

Eastland County Drilling

Beard and others' No. 1 Armstrong, spudding; Brothers Oil Co.'s No. 1 Watson, drilling in gray lime at 3,107 feet; Dixie Oil Co.'s No. 1 Brashear, drilling in brown shale at 1,390 feet; Dorothy Oil Co.'s No. 1 Elliott, spudding; Magnolia Petroleum Co.'s No. 15 Hawkins, drilling at 350 feet; No. 17 Westmoreland, drilling at 2,500 feet; Mid-Kansas Oil & Gas Co.'s No. 6 Harrell, showing a little oil and will shoot at 3,568 feet; Parsons and others' No. 1 Scott, running 10-inch casing at 650 feet; States Oil Corp.'s No. 8 Quiett, fishing for under-reaming lugs at 2,150 feet; Continental Oil Co.'s No. 1 Ramsour, spudding; Keough and others' No. 10 Gooch, setting 8¼-inch casing at 1,180 feet; Lobb and others' No. 1 Owens, drilling at 2[illegible]

Wichita County Drilling

Brunsen and others' No. 1 Howe, drilling in brown shale at 480 feet; Donovan and others' No. 1 Borgfeldt, drilling at 500 feet; Miller and others' No. 1 Evans, cleaning out at 1,670 feet; Magnolia Petroleum Co.'s No. 106 Reilly, drilling in rock at at 1,395 feet; No. 107 Reilly, drilling in shale at 1,410 feet; Shappel Oil Co.'s No. 1 Sisk, drilling at 2,065 feet; Barr and others' No. 1 Fisher, drilling water sand and fishing for casing at 1,658 feet; Camp Oil and Gas Co.'s No. 12-B Douglas, drilling oil sand at 1,950 feet; Elliott and others' No. 1 Jennings, has 250 feet of oil in hole and setting casing at 1,845 feet; Gordon Oil Co.'s No. 3 Burnett, hole full of water and setting 6⅝-inch casing at 1,645 feet; Gwynn and others' No. 1 McCarty, boiling to test oil sand at 1,625 feet; Hammond and others' No. 1 Waggoner, drilling at 700 feet; Hill and others' No. 1 Overby, setting casing to test at 1,[illegible] feet; Magnolia Petroleum Co.'s No. 5 Abernathy, drilling at 1,400 feet; Miller and others' No. 8 McMahan, drilling at 440 feet; No. 8-A Waggoner, drilling at 240 feet; Union Texas Oil Co.'s No. 7 Roller, drilling at 580 feet; Moores and others' No. 2 Kemp & Allen, showing oil and water and drilling at 1,700 feet; Murray and others' No. 1 Murray, drilling at 1,575 feet; O'Donohoe and others' No. 2 Kemp & Allen, drilling at 1,[illegible] feet; No. 1 Hodge, fishing for casing at 1,825 feet; Ryan Petroleum Co.'s No. 26 Nance, cleaning out at 1,660 feet; No. 27 Nance, drilling at 200 feet; Shaw and others' No. 1 Waggoner, bailing and testing oil sand at 1,725 feet; Slimp and others' No. 1 Chilson, drilling at 900 feet; The Texas Co.'s No. 296 Waggoner, drilling at 300 feet; Texhoma Oil & Refining Co.'s No. 6 Burnett, has drilling into oil sand and setting casing at 1,810 feet; Underwood Drilling Co.'s No. 1 Watkins, has 40 feet of oil in hole and some water and drilling at 1,705 feet.

Wildcat Completions

Childress County: Noco Mexican Oil Syndicate's No. 1 Smith, dry at 2,[illegible] feet.

Foard County: Landreth Oil Co.'s No. 1 Halsell, dry at 3,795 feet.

Clay County: Lone Star Gas Co.'s No. 4 Withers, 500,000 feet of gas at 1,[illegible] feet.

Wildcats Drilling

Wilbarger County: Bridwell & Heyerick's No. 2 Stephens is drilling at [illegible] feet; Dill Farm Oil Co.'s No. 1 Dill, has hole full of water and set 5⅛-inch casing at 2,069 feet; McCamey and others' No. 1 Richardson, drilling at 1,310 feet; Noble Oil Co.'s No. 1 Stephens, drilling at 1,375 feet; No. 1 Waggoner, drilling at 2,000 feet; Ray and others' No. 1 Dill, drilling at 950 feet; No. 1 Bond, drilling in blue shale at 900 feet; Tippett and others' No. 1 Sheldon, drilling in brown shale at 1,200 feet; Winnipeg Oil Co.'s No. 2 Bond, drilling in blue shale at 1,700 feet; No. 3 Bond, drilling at 400 feet.

Hutchinson County: Barnum and others' No. 1 Johnson, drilling water well and showing 60,000,000 feet of gas at 2,825 feet; Dixon Creek Oil Co.'s No. 1 Smith, drilling at 420 feet; Douglas Oil Co.'s No. 1 Whittenburg, drilling at 700 feet; Amarillo Oil Co.'s No. 2-B Bivens, drilling in lime at 2,135 feet; Prairie Oil & Gas Co.'s No. 1 Shaw, drilling at 1,075 feet; Western Enterprise Oil Co.'s No. 1 Smith, showing 5,000,000 feet of gas and drilling in lime at 2,600 feet; Wilson and others' No. 1 Whittenburg, showing 40,000,000 feet of gas and drilling in lime at 2,790 feet.

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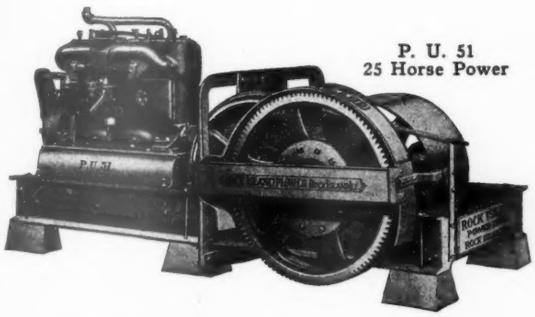

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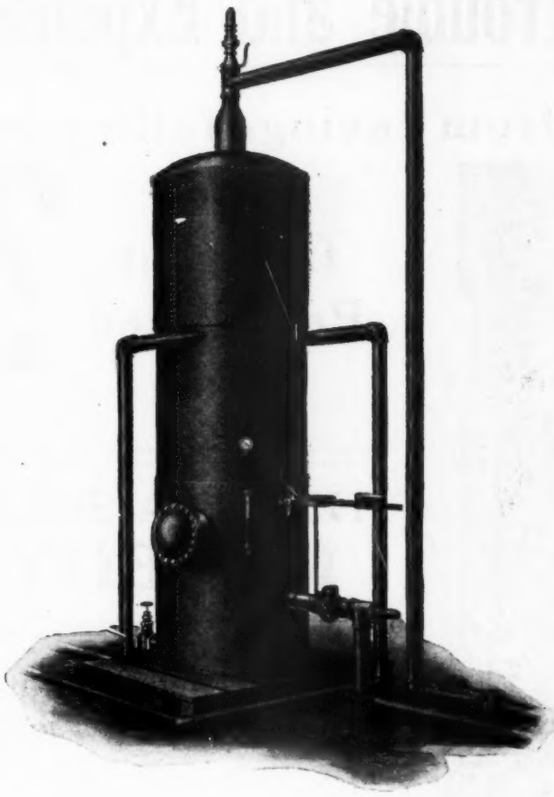


For many years Trumble Oil and Gas Separators have been used all over the world and a saving of both oil and gas has been effected by their use. A saving of oil is effected by holding the lighter constituents in the oil while the separation is taking place, under pressure. The gas when separated from the oil is confined to pipe lines where it may be carried to any place where it may be desired.

Oil and gas conservation is an important item in the operating fields today and may be the difference between profit and loss in operating a small field.

TRUMBLE GAS TRAP COMPANY

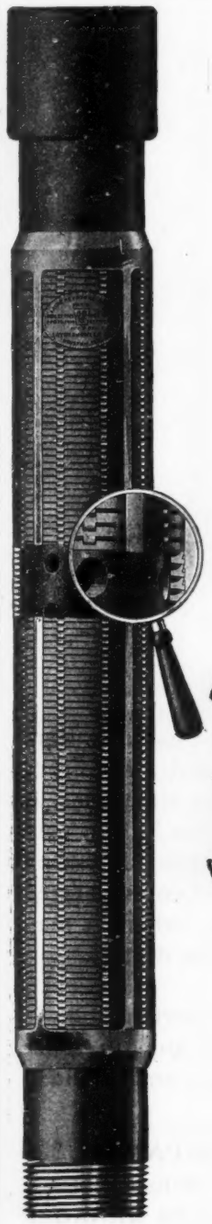
804 Higgins Building
LOS ANGELES, CAL.

William C. Rae
SALES MANAGER

Eastern Representative:
C. F. CAMP
14 East Seventh Street (P. O. Box 289)
TULSA, OKLAHOMA

Have You a Well that causes Trouble and Expense

from cavings falling in and filling up Perforated Tube ?



HERE'S A SURE REMEDY

Pull out the perforated tube and set a few joints of

THE LAYNE

Patent

Keystone Wire Wrapped SCREEN

and you'll have no more of this trouble

—as proven by actual tests on many old wells now producing continuously without necessity of frequent pulling and cleaning.

Write for Special Packer and Screen Literature

The Layne & Bowler Co.

HOUSTON, TEXAS

Co.'s No. 2 Burnett, drilling in granite wash at 2,895 feet; No. 3 Burnett, cementing casing at 1,830 feet; Crosby Oil Co.'s No. 1 Burnett, drilling at 1,590 feet; Danciger Oil Co.'s No. 1 Burnett, drilling in lime at 2,775 feet; Gates Oil Co.'s No. 1 Burnett, drilling in lime at 2,266 feet; Marland Oil Co.'s No. 1 Burnett, drilling in red beds at 1,865 feet, Olsen Oil Co.'s No. 1 Burnett, fishing for bit and 700 feet of drill pipe at 2,500 feet; The Texas Co.'s No. 1 M. C. Burnett, straightening hole at 2,945 feet; No. 2 M. C. Burnett, drilling at 1,130 feet; 4 Burnett, cleaning out at 2,965 feet;

Gray County: Anderson and others' No. 1 Bradford, drilling at 340 feet; Dilliard Oil Co.'s No. 1 Henry, drilling at 1,920 feet; Holmes and others' No. 1-A Morris, drilling at 1,620 feet; Wilcox Oil Co.'s No. 1 Worley, drilling in shale and lime at 2,930 feet; No. 1 Wilson, shut down waiting on storage at 3,270 feet.

Baylor County: Crittendon and others' No. 1 Hawkins, drilling in shale at 1,800 feet; Dallas Oil Co.'s No. 1 Shawver, cleaning out at 1,830 feet; Glazier and others' No. 1 Shawver, drilling at 700 feet; Magnolia Petroleum Co.'s No. 2 Portwood, spudding at 100 feet; Moore and others' No. 1 Fancher, running 8¼-inch casing at 965 feet.

Clay County: Burton and others' No. 1 Harding, drilling in rock at 1,800 feet; Cumley and others' No. 1 Camp, testing sand at 1,805 feet; Finley and others' No. 4 Scott, drilling at 620 feet; Lone Star Gas Co.'s No. 6 Lochridge, showing some gas and drilling at 1,525 feet; Piedmont Oil Co.'s No. 1 Dean, drilling at 1,200 feet; Sullivan and others' No. 2 Scott, drilling at 800 feet; Shelton Oil Co.'s No. 1 Boddy, jamming tools at 1,375 feet.

Montague County: Guarantee Fuel Oil Co.'s No. 1 Jordan, drilling in sand and lime formation at 3,285 feet; Texhoma Oil & Refining Co.'s No. 1 Cato, drilling at 1,265 feet; The Texas Co.'s No. 2-A Gist, cementing casing at 865 feet; Wood and others' No. 2 Summerour, drilling in shale at 2,290 feet.

Throckmorton County: Hougland and others' No. 1 McKnight, trying to shut off water at 720 feet; Hamilton and others' No. 1 Odell, drilling at 860 feet; King and others' No. 1 Broyles, drilling at 730 feet; Larkins and others' No. 1 Conger, rigging to pump oil at 1,430 feet; No. 1 Richards, drilling at 225 feet; Shamrock Oil Co.'s No. 1 McKnight, drilling at 1,835 feet; Whatley and others' No. 1 Parrott, fishing for tools at 802 feet.

Shackelford County: Magnolia Petroleum Co.'s No. 4 George, drilling at 2,125 feet; McMahan and others' No. 2 Lynch, fishing for casing at 3,920 feet.

Palo Pinto County: Broderick and others' No. 1 Mosley, drilling in black rock at 3,160 feet; Hall and others' No. 1 Chestnut, drilling at 620 feet; Hughes and others' No. 1 Beldon, drilling in rock at 1,000 feet; Phillips and others' No. 1 Stringer, drilling at 600 feet; Britton and others' No. 2 Strawn Coal Co., pulling big pipe and showing 2,000,000 feet of gas at 3,260 feet; Pender and others' No. 2 Slemmons, drilling at 900 feet.

Callahan County: Dudley Oil Co.'s No. 1 Moore, swabbing water at 1,853 feet; Dutton and others' No. 1 Carter, drilling at 1,415 feet; No. 6 Cathey, drilling at 1,025 feet; Poe and Wilson and others' No. 4 Bryson, drilling at 1,610 feet; Prewitt and others' No. 1 Bailey, pulling pipe at 1,940 feet; No. 1 Windham, drilling at 1,300 feet.

Mitchell County: Eddleman and others' No. 1 Gist, fishing for tools at 2,850 feet; Humphreys Oil Co.'s No. 1 Coleman, drilling in soft rock at 2,425 feet; California Co.'s No. 5 Miller, has water hole at 225 feet; No. 7 Abrams, drilling in shale at 965 feet; Morrison and others' No. 1 Kynder, showing some oil and drilling at 2,370 feet.

Brown County—Avery and others' No. 3 Cox, cleaning out at 2,540 feet; Gully and others' No. 1 Cox, drilling at 930 feet; Honea and others' No. 2 Debusk, drilling in hard rock at 2,000 feet; Mendenhall and others' No. 2 Newton, drilling at 600 feet; Moore and others' No. 1 Teston, drilling at 1,100 feet; Slick and others' No. 1 Chambers, drilling in brown shale at 575 feet; Thomas and others' No. 1 Bohara, underreaming at 2,410 feet.

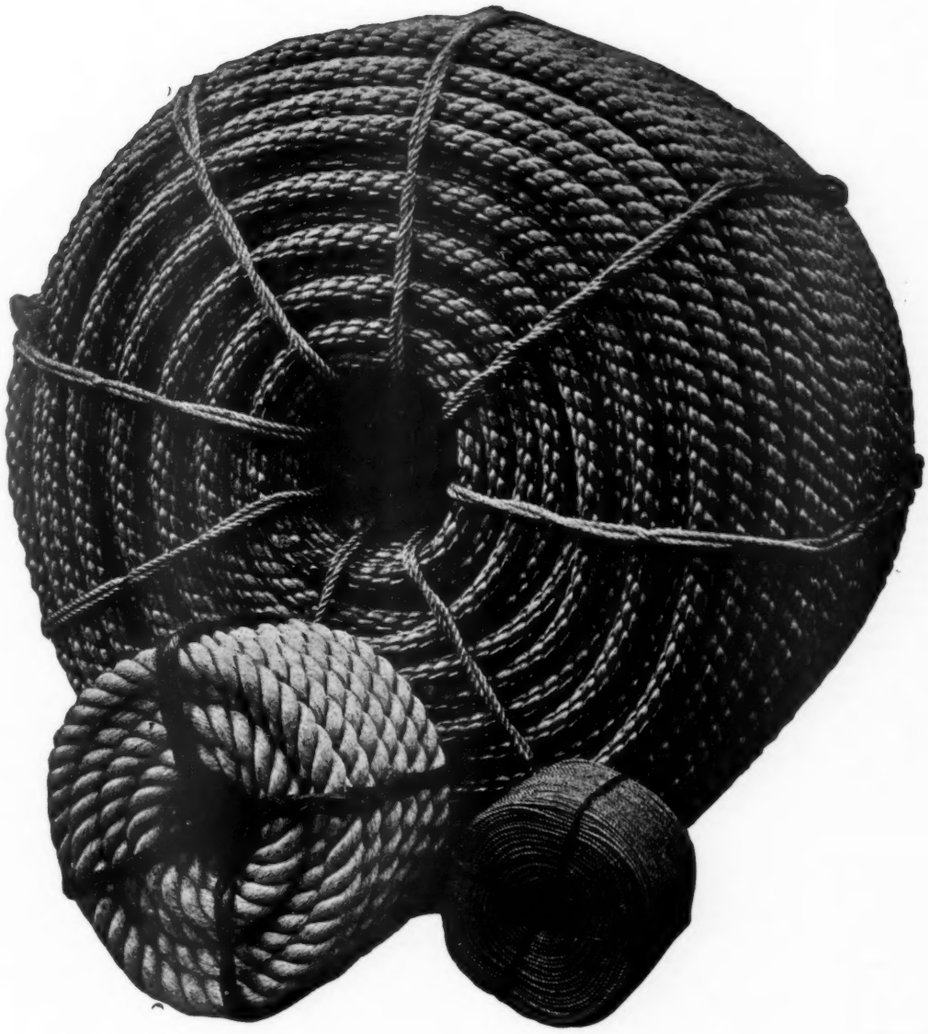
Reagan County: Arkansas Fuel Oil Co.'s No. 1 University, fishing for casing at 2,535 feet; Big Lake Oil Co.'s No. 3 University, fishing for swab at 2,970 feet; No. 13 University, drilling at 1,650 feet; No. 14 University, drilling at 900 feet; No. 15 University, drilling at 1,800 feet; Crockett Drilling Co.'s No. 1 University, drilling in shale at 1,100 feet; Texon Land & Development Co.'s No. 2 University, hole full of water and drilling at 3,535 feet; University Oil Co.'s No. 1 University, drilling at 305 feet; Wrightman and others' No. 1 Ingram, shut down for 15½-inch casing at 300 feet.

PRODUCTION REPORT

Week Ending October 30, 1924

Burkburnett	
Barkley & Meadows	1,005
Humble Oil & Ref. Co.	500
Gulf Production Co.	855
Magnolia Petroleum Co.	3,020
McMahon Oil Co.	335
Panhandle Oil & Ref. Co.	325
Prairie Oil & Gas Co.	40
Sinclair Oil & Gas Co.	70
The Texas Co.	530
Texhoma Oil & Ref. Co.	440
Miscellaneous	10,355
Total	17,473
Electra	
Empire Gas & Fuel Co.	1,325
Humble Oil & Ref. Co.	180
Griswold Oil Co.	345
Gulf Production Co.	920
Magnolia Petroleum Co.	4,025
McMahon Oil Co.	210
Panhandle Oil & Ref. Co.	65
The Texas Co.	4,020
Texhoma Oil & Ref. Co.	1,940
Miscellaneous	9,275
Total	22,305
Iowa Park, Etc.	
Griswold Oil Co.	100
Gulf Production Co.	35
Humble Oil & Ref. Co.	20
Panhandle Oil & Ref. Co.	60
Texhoma Oil & Ref. Co.	60
Miscellaneous	4,045
Archer County—	
Empire Gas & Fuel Co.	925
Griswold Oil Co.	710
Gulf Production Co.	315
Humble Oil & Ref. Co.	320
Magnolia Petroleum Co.	320
Panhandle Oil & Ref. Co.	1,430
Prairie Oil & Gas Co.	1,440
The Texasx Co.	560
Texhoma Oil & Ref. Co.	2,100
Miscellaneous	21,250
Petrolia—	
Gulf Production Co.	55
Magnolia Petroleum Co.	20
The Texas Co.	60
Miscellaneous	220
Total	34,945
Stephens County—	
Empire Gas & Fuel Co.	100
Gulf Production Co.	1,385
Humble Oil & Ref. Co.	1,110
Magnolia Petroleum Co.	315
Mid-Kansas Oil & Gas Co.	2,535
Prairie Oil & Gas Co.	1,075
Sinclair Oil & Gas Co.	120
The Sun Co.	460
The Texas Co.	2,015
Texas Pacific Coal & Oil Co.	1,125
Miscellaneous	7,130
Total	17,360
Eastland County—	
Gulf Production Co.	395
Humble Oil & Ref. Co.	110
Magnolia Petroleum Co.	535
Panhandle Oil & Ref. Co.	420
Prairie Oil & Gas Co.	730
Sinclair Oil & Gas Co.	290
The Texas Co.	295
Texas Pacific Coal & Oil Co.	1,005
Miscellaneous	2,860
Total	6,640
Other Fields	
Strawn—	
Texas Pacific Coal & Oil Co.	195
Miscellaneous	470
Moran—	
Empire Gas & Fuel Co.	65
Humble Oil & Ref. Co.	465
The Texas Co.	145
Texhoma Oil & Ref. Co.	150
Miscellaneous	2,375
Coleman County—	
Miscellaneous	20
Brown County—	
Miscellaneous	750
Comanche-Eastland—	
Humble Oil & Ref. Co.	240
Magnolia Petroleum Co.	1,120
Mid-Kansas Oil & Gas Co.	320
Sinclair Oil & Gas Co.	55
The Texas Co.	215
Texas Pacific Coal & Oil Co.	150
Miscellaneous	3,570
Young County—	
Gulf Production Co.	90
Sinclair Oil & Gas Co.	460
Panhandle Oil & Ref. Co.	190
The Texas Co.	45
Miscellaneous	3,120
Mitchell County	1,685
Reagan County	5,810
Jack County	20
Scurry County	10
Carson County	1,265
Hutchinson County	225
Callahan County	1,405
Total	24,520
Total this week	122,845
Total last week	118,175
Gain	4,670

New Bedford Cordage



New Bedford Drilling Cable, Bull Rope and Torpedo Line

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Mills: NEW BEDFORD, MASS.

Oil Securities Strong, Less Active

Advances Made in Many Issues That Had Failed to Move Upward Before. Prairie Announcement Considered Most Important Development

By N. O. Fanning
Room 543, No. 30 Church St., New York

NEW YORK, Nov. 1.—Oil securities continued strong in the New York markets during the past week, although less active than during the previous weeks. Advances were made, however, in many issues which had failed to move upward before. Associated Oil touched 31. Atlantic Refining moved up to 90⅞. Independent Oil & Gas to 8¾ and Gulf Oil touched 65.

By far the most important development during the week was the announcement that the Prairie Oil & Gas Co. will ask stockholders at the annual meeting on December 9 to vote upon increasing the capital stock from $60,000,000 to $70,000,000 and to decrease the par value of each share from $100 to $25.

Placed as the Prairie Oil & Gas Co. is practically in the heart of the producing fields, this statement was looked upon here as a virtual warning against undue optimism with regard to the outlook for the oil industry.

Sizing Up Situation

Although many favorable developments in oil have undoubtedly occurred in the last few weeks, conservative opinion holds to the belief that it will take many months for the oil business to regain a position which might be called prosperous. Steady but slow improvement is taking place, and has since the peak production was reached in California last year, but whether 1925 will bring prosperity is by no means sure at present.

The steady gain in oil security prices during the last few weeks is regarded as unusual in view of the situation, However, movements in securities have so many complications with regard to causes that it isn ot at all safe to look upon any given move as unjustified.

The belief is growing that in spite of comparatively low prices prevailing in the oil industry, many companies will show bigger profits this year than in 1923, and therefore higher quotations for the stocks of these concerns appear natural. From 1920 to 1923 oil companies as a group had to meet many obstacles which are now overcome and out of the way. Steady declines in prices, amounting to as much as 75 per cent, necessitated sharp reductions in inventory values, but these seem to have been completed at the close of 1923. In addition, some concerns had to charge off heavy losses on operations in Mexico. These deductions were made in 1921 and 1922.

The situation now is, therefore, that companies which have expanded the volume of their sales steadily, as many have, and have made sufficient readjustments up to the end of 1923 in inventory values, will show good, if not highly favorable earnings for 1924. The chief danger lies in further additions to stocks of crude this winter resulting in new declines in crude prices to levels below those prevailing at the close of 1923.

Marland Oil

Marland Oil Co. has placed privately a new issue of $20,000,000 two-year 5 per cent notes, underwritten by J. P. Morgan & Co., the Guaranty Trust Co., F. S. Smithers & Co. and Potter & Co. The issue furnishes money to be used in redeeming purchase money obligations outstanding, to pay off bank loans and to provide a balance which will be used for other corporate purposes.

Marland Oil Co. in the last year or two has steadily expanded, and it is believed will be developed into an all around company in the near future, with tanker and export facilities as well as domestic pipe lines, refineries and marketing facilities. This policy is linked closely with the purchase of a block of stock some time ago by strong New York banking interests.

Originally centering its operations in Oklahoma, Marland now is active in practically all parts of the southwest and has also gone into California. One of the latest steps is the company's entrance into Reagan County development. The contract between the Marland company and Big Lake Oil & Texon Oil companies for handling their production, provides Marland shall erect 10 steel tanks each of 80,000 bbls. capacity in the field and that when total settled minimum daily production reaches 20,000 bbls. it shall build a pipe line outlet. The pipe line will run either direct to Texas City, about 350 miles, passing through the Luling Field, or to a connection with Humble Oil's trunk pipe line, at Comyn, which runs to the Gulf. Big Lake and Texon have several 50-000-bbl. tanks built or building, and it is stated Marland is negotiating for their purchase.

Several weeks ago Marland contracted to buy 50,000 bbls. of crude from Big Lake and 40,000 from Texon. This oil has been moving in solid tank trains from the loading racks to the Marland tank farm and export terminal at Texas City. Marland now has a large tank farm and loading racks at Texas City, one of the chief oil shipping ports on the Gulf Coast.

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

No.	Stock—	Par	§Dividend Rate	Clos. Quotations Nov. 3	Oct. 27	1924 High	1924 Low	1923 High	1923 Low
1.	American Republics	..	..	*36	*36	43	25	..	..
2.	Associated Oil	25	6	30⅜	30⅝	34⅝	27⅝	29¼	29½
3.	Atlantic Ref. com.	100	..	89	88⅝	140½	78½	160	98⅝
4.	Barnsdall "A"	25	..	18	*17½	21⅝	14	35	9⅞
5.	California Pet. com	25	7	22¼	22¼	29	19⅞	28½	17½
6.	Cosden & Co. com.	..	..	26⅞	25⅝	40¼	22⅝	62¼	23⅝
7.	General Am. Tank.	..	†3	44⅜	43⅜	49¼	35½	71⅞	40
8.	General Asphalt	100	..	41½	41¼	49	31⅝	64	23
9.	General Petroleum	25	8	42⅜	42½	45	38⅝	..	..
10.	Houston Oil	100	..	68⅛	68⅛	82½	61	78	40⅝
11.	Independent Oil & Gas	10	..	8¼	7⅝	9¼	5⅝	11½	3⅜
12.	Indian Refining	10	..	*5½	5⅝	7	3⅜	8½	4
13.	Invincible Oil	50	..	13⅜	13½	15⅞	11⅝	19¼	7½
14.	Maracaibo	..	..	26	26½	37½	25⅝	28¼	16
15.	Marland	..	..	35⅛	34⅝	42	29	59⅝	18½
16.	Mexican Seaboard	..	..	21⅝	23⅜	25⅜	14⅛	19¾	5¾
17.	Middle States Oil	10	..	1⅝	1⅝	6⅞	1	12¼	3½
18.	National Supply	50	6	56½	55½	72½	54	68	54
19.	Pacific Oil	50	†2	51⅞	50⅝	58¼	45	52½	31⅛
20.	Pan American com.	20	16	52	51	61¼	44¼	93½	53
21.	Panhandle P. & R.	..	..	*2	*2½	4½	1⅝	6¼	1¼
22.	Phillips Petroleum	..	†2	34½	33⅜	42¼	28½	69⅝	19⅜
23.	Producers & Refiners	50	..	26⅛	26½	43½	22⅝	58¼	17½
24.	Pure Oil, com.	25	6	23⅞	23⅜	26⅜	20	32	16¼
25.	Royal Dutch, N. Y. sh.	13.40	2.62	44	42⅜	59½	40⅜	55⅛	40½
26.	Shell Transport	10	x92⅛	*38	35½	41½	33	41¼	29½
27.	Shell Union, com.	..	†1	18⅝	18⅝	20⅛	15⅜	19¼	12⅜
28.	Simms Petroleum	10	..	15¼	15	15½	10⅜	16⅝	6⅛
29.	Sinclair Cons. com.	..	..	17⅛	16⅞	27½	15	39⅝	16
30.	Skelly Oil	25	..	20⅝	20⅜	29	17½	36	12½
31.	Standard of California	25	8	29	58½	68½	55½	64½	47½
32.	Standard Oil of N. J.	25	4	36⅝	35⅞	42¾	33	44¼	30⅜
33.	Standard of N. J. pfd.	100	7	117½	117⅛	118⅝	115⅜	118¼	114⅝
34.	Superior Oil	..	..	4⅝	4⅞	8½	2⅝	6⅝	2
35.	The Texas Co.	25	12	41	40⅞	45⅝	37⅝	52⅞	34⅝
36.	Texas Pac. Coal & Oil	10	..	9	8⅞	15¼	8¼	24⅜	5½
37.	Tide Water Oil	100	4	123	121	151	116¼	144	94
38.	Transcontinental	..	..	4¼	4	6¼	3⅝	14½	1¼
39.	Union Tank com.	100	5	*120	*121	132⅞	94	114	106
40.	White Eagle Oil & Ref.	..	2¼	26½	26	29⅝	23½	30⅜	20½
	Standard Oil Stocks								
41.	Anglo-American Oil	£1	25	17⅛	16¼	18	14⅜	19⅝	13½
42.	Borne Scrymser	100	12	*200	*200	264	150	153	110
43.	Buckeye Pipe Line	50	14	61½	60	85½	51	94	57½
44.	Chesebrough Mfg. co.	25	14	*47½	47⅞	43⅝	29¼	340	205
45.	Continental Oil	25	8	*44	*44	54⅜	42½	50	32½
46.	Crescent Pipe Line	25	..	*13½	11½	20	11¼	25	15
47.	Cumberland P. L.	100	10	134	*134	148	109	117	80
48.	Eureka Pipe Line	100	8	*80	*80	105	74	117¼	87
49.	Galena Signal com.	100	4	54	52½	69⅝	55¼	78	55
50.	Humble Oil & Ref.	25	4.8	37½	36⅞	43⅝	36	41	28¼
51.	Illinois Pipe Line	100	12	*125	126	161	123	171	115
52.	Imperial Oil, Ltd.	25	12	108	107	119	99	123	92
53.	Indiana Pipe Line	50	8	76	*74	100	66	103	81
54.	International Pet. Co.	100	x50	19¼	19⅛	22¼	16⅞	24⅝	13¼
55.	Magnolia Pet. Co.	100	4.5	136½	138	160	124	166	123
56.	National Transit	12.50	16	*22¼	22⅛	25⅞	21¼	29	19⅛
57.	New York Transit	100	10	61	60⅛	97	54½	138	70
58.	Northern Pipe Line	100	6	74½	*77	107½	73	111	96
59.	Ohio Oil Co.	25	8	66¼	63⅞	79½	58	85⅝	48⅝
60.	Penn-Mex. Fuel	25	..	33½	34	45⅝	32½	45	10½
61.	Prairie Oil & Gas	100	8	206	214	269	194½	272	152
62.	Prairie Pipe Line	100	8	104⅝	104⅞	111	100	117	93
63.	Solar Refining Co.	100	15	180	181	225	170	212	161
64.	Southern Pipe Line	100	16	88½	*87	100	86	116	87
65.	South Penn Oil	100	..	133	*135	176	117	196	100
66.	South West Pa. Line	100	8	*74	*75	89	76½	89	66
67.	Standard of Indiana	25	10	57⅞	57⅝	58⅜	54¼	69⅞	48⅛
68.	Standard of Kansas	25	..	35¼	35¼	50½	32½	56¼	36½
69.	Standard of Kentucky	25	16	120	116¼	120	101	109½	76
70.	Standard of Nebraska	100	20	241	241	256½	198	280	186
71.	Standard of New York	25	5.6	42⅝	41⅞	48	37⅜	49⅜	35½
72.	Standard of Ohio com.	100	10	315	313	336	277	320	270
73.	Swan & Finch com.	100	..	*38	*40	81	34	38	21½
74.	Vacuum Oil	25	12	72½	71½	73⅝	56½	55½	40
75.	Washington Oil	10	10	30	*29	29	25	28	20¼
	Miscellaneous Stocks								
76.	Cities Service, bks. sh.	..	†21	18⅜	14⅝	19	13¼	18½	12⅝
77.	Gulf Oil Corp. of Pa.	25	6	64⅝	64	65¼	56	68¼	45⅝
78.	Mutual Oil	5	10	11⅛	11½	14	9⅜	..	..

*Bid, no sales. †In dollars. §The figures in this column are kept up to date as far as possible, but are not guaranteed. xCents per share.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

Nov. 3	48.16	Sept. 27	46.70	Aug. 25	47.01
Oct. 27	47.58	Sept. 22	47.02	Aug. 18	47.85
Oct. 20	46.99	Sept. 15	47.41	Aug. 11	47.48
Oct. 11	45.24	Sept. 8	47.89	Aug. 4	49.71
Oct. 6	46.20	Aug. 30	47.69	July 28	47.86

Phillips Petroleum

Phillips Petroleum Co. for quarter ended September, 30, 1924, reports consolidated net earnings for $2,561,893 after expenses and federal taxes, but before depletion, depreciation and federal taxes, against $2,258,749 in third quarter of 1923.

Consolidated reports for quarter ended September 30, 1924, compares as follows:

	1924	1923
Gross	$5,232,930	$4,391,121
Expenses	2,671,037	2,032,371
Net before depreciation and depletion	$2,561,893	$2,358,749

Indian Refining Co.

The Indian Refining Co., Inc., and subsidiaries report for the quarter ended June 30, 1924 net income of $65,422 after depreciation, etc., compared with net income of $116,922 in the preceding quarter.

For the six months ended June 30, 1924 net income amounted to $182,344 contrasted with a deficit of $174,765 in the first six months of 1923.

Independent Oil & Gas

Independent Oil & Gas Co. for three months ended September 30, 1924, shows total income, after expenses, taxes, dry holes, etc., of $307,667 available for surplus and reserves before allowing for federal taxes. This compares with $294,760 in preceding quarter and $140,223 in third quarter of 1923.

For the first nine months of 1924, total net income was $1,399,738 before reserves and federal taxes, compared with $670,882 in correpsonding period of 1923.

Houston Oil

Houston Oil Co. of Texas for nine months ended September 30, 1924, reports net income of $1,744,398 after taxes, depreciation and depletion, equivalent after allowing for nine months preferred dividends, to $5.37 a share earned on $24,968,600 outstanding common stock.

Net income for third quarter this year was $151,351, or 7 cents a share, on common. Net earnings after taxes, but before depreciation and depletion were $377,287 against $783,114 in preceding quarter and $840,251 in September, 1923, quarter.

Lago Petroleum

The balance sheet of the Lago Petroleum Corp. as of July 7, 1924, shows current assets of $227,556 and current liabilities of $106,219, leaving net working capital of $121,337 as compared with net working capital of $136,126 as of December 22, 1923.

Balance sheet as of July 7, 1924, compares as follows:

	July 7,'24	Dec.22,'23*
Concessions	$15,791,459	$5,000,000
Investments in affiliated companies	400,000	.....
Deferred development and operating expen's	365,761	.....
Preliminary organizing expenses	107,984	73,812
Advances on contracts	.....	90,000
Cash	227,556	254,901
Total	$16,892,760	$5,418,843
Liabilities—		
Capital stock	$14,010,541	$5,300,000
Due affiliated companies	2,776,000	.....
Accounts payable	77,884	30,343
Accrued liabilities	28,375	15,981
Notes payable	.....	72,501
Total	$16,892,760	$5,418,843

*After giving effect to sale of 150,000 shares of no par capital stock and application of part of proceeds in reduction of liabilities.

Capital stock as of July 7, 1924, is represented by 2,052,500 shares and as of December 22, 1923, by 1,650,000 shares, both of no par value.

Lago Petroleum has made its first shipment of oil from its producing fields at La Rosa, Venezuela, to its ocean shipping point on the island of Aruba. This

(Continued on Page 115)

Bureau of Mines Report on Tetraethyl

Bayway Fatalities Occurred in Manufacture of the Lead; No Ill Effects Reported in Two Years' Use of Greatly Diluted Gasoline Form

The death of five workmen and the illness of many more, treated at Reconstruction Hospital, New York City, and now being gradually discharged, from what is attributed to be tetraethyl lead poisoning contracted while at work at an experimental plant of the Standard Oil Co. (New Jersey) at Bayway, N. J., has resulted in a score of investigations, some bearing on the use of ethyl gasoline from the standpoint of public safety. Statements issued by the Standard Oil Co. (New Jersey), by Thomas Midgley, Jr., discoverer of tetraethyl, and by Irene du Pont, president of the E. I. du Pont de Nemours Co., call attention to the difference of the handling of concentrated tetraethyl lead in manufacture and the marketing of the lead in greatly diluted form with gasoline, as ethyl gasoline. In no case has any ill effect upon health been noted from ethyl gasoline. An important statement by the Bureau of Mines which has been investigating various phases of the question over a period of months, concludes that the possible hazard due to exhaust gases from automobiles using ethyl gasoline as ordinarily sold indicates the danger to be seemingly remote.

The accident occurred in a small temporary emergency manufacturing plant for experimental purposes which began operation September 15, to help meet the existing shortage of tetraethyl lead, the demand for which had outstripped the supply. The chief manufacturing of the product is being done by the du Pont company at Wilmington, which is completing larger and permanent manufacturing facilities for turning it out on a commercial scale. The sale of ethyl gasoline is handled by the Ethyl Gasoline Corp., owned jointly by the Standard Oil Co. (New Jersey) and the General Motors Corp. The development of the product is closely allied with the projected manufacture of motors of greater economy with prospects of revolutionary results.

Every Precaution Taken

According to statements by the New Jersey company every precaution had been taken against injurious effects to workmen engaged in handling the poisonous concentrated tetraethyl lead at the plant, including physical inspection of the men daily, constant admonitions as to wearing rubber gloves and using gas masks and not wearing away from the plant clothing worn during work hours. Tetraethyl lead, according to a statement of Mr. Midgley to the writer, is not as poisonous as bichloride of mercury which can be purchased at any drug store. To prove the substance was not dangerous in small quantities he rubbed some on his hands. While some accidents had occurred at the Dayton plant, which formerly manufactured tetraethyl lead, and some at the du Pont plant, these are attributed to the usual manufacturing risks in such cases.

Regarding ethyl gas, Mr. Midgley said sales this year would be in the neighborhood of 100,000,000 gallons. The gas has been sold almost two years, and in no instance, either at service stations or in the hands of the public has any ill effect been recorded in the proper use of the product. The gas is being sold by the Standard Oil Co. (Indiana), generally throughout its territory; by the Gulf Refining Co. in Texas, Pennsylvania and Delaware; by the Standard Oil Co. (New Jersey), generally throughout its territory; by the Standard Oil Co. of Louisiana, generally throughout its territory, and by Spears & Riddle in West Virginia.

Agitation Over Ethyl Fluid

As a result of the accident the Bayway experimental plant probably will not be reopened. The du Pont factory will continue to manufacture the product, the sale of which through the Ethyl Gasoline Corp., is not confined to any limited number of companies. The plans are to secure eventually a universal distribution of ethyl gasoline through all available marketing channels.

In the meantime action has been taken by several communities against the sale of ethyl gas and how far this agitation will progress depends to a great extent on the result of many pending investigations. The principal allegations as to the possible danger of the use of tetraethyl lead in gasoline are those of Dr. Yandell Henderson, professor of applied physiology at Yale, an authority on the action of gases on the human body, who asserted two years ago he was asked to make a report on the substance by the General Motors Corp., that he reported it to be exceedingly dangerous to life and health and that it would be criminal to impose so great a hazard on the general public unless prolonged experiments showed that in some form the product might be absolutely safe. He asserted that absence of injury due to breathing exhaust fumes was no indication that the fumes were not dangerous as the poison was so insidious the breakdown in health might occur long after the breathing of the fumes.

Hospital Head's Opinion

Dr. W. Gilman Thompson, head of the Reconstruction Hospital, where the patients were treated, issued the following statement:

"Tetraethyl lead is a substance first known to chemists in 1854. Since that time it frequently has been experimented with in chemical laboratories where it was known to be, in concentrated form, poison. It is a compound of metallic lead and one of the alcohol chemical series. Its recently discovered use for greatly promoting the efficiency of gasoline engines has led to its manufacture on a commercial scale through processes still more or less in a stage of development. This has occasioned unforeseen accidents which as processes and apparatus are further perfected should be avoidable. One has been the sudden escape of fumes from large retorts and the inhalation of such fumes gives rise to acute symptoms particularly congestion of the brain, producing a condition not unlike delirium tremens. Although there is lead in the compound, these acute symptoms are wholly unlike those of chronic lead poisoning such as painters often have.

"There is no obscurity whatever about the effects of the poison and characterizing the substance as 'mystery gas' or 'insanity gas' is grossly misleading.

"In the recent cases there were five which resulted fatally before the delirium could be controlled. The other patients were affected in mild degree, but promptly were brought to the Reconstruction Hospital in New York, because that institution is devoted exclusively to curative treatments that are proving highly successful.

"It should be emphasized that the product as destined for final use in gasoline engines has to be greatly diluted, usually with 1,000 parts of gasoline. This extremely diluted product has been for more than a year in public use in over 10,000 filling stations and garages and no ill effects thus far have been reported."

Bureau of Mines Statement"

The result of the United States Bureau of Mines experiments are given in the following official statement issued by the Department of the Interior:

"In connection with the unusual circumstances attending the death of certain individuals employed in experimental work with tetraethyl lead in the Bayway Laboratories of the Standard Oil Co. of New Jersey, the Department of the Interior, through the Bureau of Mones, calls attention to the difference between tetraethyl lead and ethyl gasoline. These two products, which are quite different would seem to have become confused in the minds of the public as the result of press accounts of this unusual accident. Considerable publicity has been given to the statement that the product causing the poisoning of these persons was ethyl gasoline, the product as sold to automobile owners. This is erroneous, as the operation of the Bayway laboratories refers to the process of manufacture of the concentrated tetraethyl lead. This product is not sold to automobiles drivers except when tremendously diluted with gasoline. Tetraethyl lead is not in itself an engine fuel and is only used in greatly diluted form, commonly less than one part of tetraethyl lead to 1,000 parts of gasoline by volume.

"One of the outstanding problems confronting automotive engineers in attempting to construct motors of greater economy is eliminating the socalled 'knock.' It has been demonstrated that this 'knock' can be controlled by the addition of small quantities of certain fluids. These materials make it possible to use satisfactorily a lower grade of gasoline and to use engines of a more economical type. The value, in fuel conservation, of both increasing the portion of crude oil marketable as motor fuel and also permitting the designing of more efficient engines, was obvious to the Bureau of Mines. Its attention was also called to the possibility of health hazards in addition to those of carbon monoxide from exhaust gases. As a result the investigation of these products was undertaken. The laboratory work was conducted by the Department of Interior at the Pittsburgh station of the Bureau of Mines under the direct supervision of its technical staff.

"One of the most commonly used antiknock compounds is known as tetraethyl lead. This is added to gasoline in quantity of less than one quart of tetraethyl lead in 1,000 parts of gasoline by volume and this mixture sold of the market as ethyl gasoline.

Hazards to Health

"The problems of the health hazard due to the use of tetraethyl lead may be divided into three parts.

"1. The hazard in the manufacturing and handling of the concentrated tetraethyl lead. This hazard occurs in the manufacturing plant.

"2. The possible hazard in handling the ethyl gasoline (one part of tetraethyl lead to 1,000 parts of gasoline). This possible hazard may affect those handling ethyl gasoline.

"3. The possible hazard due to the exhaust gases from automobiles using ethyl gasoline. This possible hazard concerns the entire public.

"The scope of the work undertaken by the Bureau of Mines included an investigation of all these possible hazards. The danger in the manufacture and handling of the concentrated tetraethyl lead and the possible risk in handling the ethyl gasoline as sold to the automobile driver are now being investigated. Sufficient data has not been obtained to draw conclusions. As soon as this investigation has been completed the results will be made public.

"The possible hazard due to the exhaust gases from automobiles using ethyl gasoline as ordinarily sold has been under investigation for more than 10 months.

Exhaustive Experiments

"The plan was that of exposing various types of animals (pigeons, guinea pigs, rabbits, dogs and monkeys, over 100 in all) to a definite concentration of exhaust gas from an engine using ethyl gasoline. The concentration of exhaust gas in air used was that which, when coming from the average automobile, would be four parts carbon monoxide in 10,000 parts of air; this concentration would be allowable for but a period of one hour exposure from the standpoint of carbon monoxide. (The concentration of exhaust gas in air used exceeded that known to exist in ordinary traffic of a city street.) The carburetor was adjusted so the carbon monoxide content of the exhaust gas from the engine used was less than one-half that found in the average automobile exhaust gases.

"The animals were divided into three groups. The first two were exposed for periods of three and six hours respectively and the third group not exposed but used as controls. The animals were daily exposed for three and six hours over a

(Continued on Page 119)

DOUGLAS LAKE DOME, COLO., WELL FINDS WATER IN THE DAKOTA SAND

By F. B. Taylor

CASPER, Wyo., Nov. 3.—Colorado oildom received another black eye the past week. The well of the Union Oil Co. of California drilling on the Douglas Lake Dome in the Fort Collins district, found water in the Dakota sand at 4,258 feet. It had been confidently expected to come in a producer of either oil or gas. The Wellington Dome lies just north of the Douglas Lake Dome and the Fort Collins Dome lies just south, so the Douglas Lake well was considered one of the best chances in the State. The Fort Collins structure is producing oil and the Wellington structure produces gas and some oil.

The Union will not abandon the Douglas Lake Dome well however. The water will be cased off after underreaming and the hole drilled through the Dakota for a complete test of the Dakota and Lakota sands. This well is right on the center of the Douglas Lake structure on Section 36-9-69 and tests the whole dome, as whatever production would be contained in the sands, would be found on the higher parts of the structure where the Union's well is located. There is still a possibility that the Lakota sand may carry production in this structure, but the lease values have slumped heavily on holdings on the Douglas Lake Dome on receipt of the news of the water flow.

The next well expected in the Colorado fields is the wildcat on the Berthoud Dome bing drilled by the Midwest Refining Co. It is in the lime above the Dakota formation and should be in the Dakota sand next week with good luck. This is the well that found a good gas flow in the Frontier shales last month.

Colorado Drilling

The rotary well being drilled in the Fort Collins district by the Union Oil Co. is having some trouble at 2,842 feet with cavey hole. This is being made to serve as a deep test of all the formations in that district and will be carried below all horizons where sands are that may carry production.

The Union of California is at 3,000 feet and close to the Dakota sand on Section 31-5-98 in Moffat County. This location is on a structure similar to the Iles Dome in the Moffat Field. The Union is also drilling a deep hole on the Vermejo Dome across the Colorado

(Continued on Page 115)

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GROWING IMPORTANCE OF SOUTH AMERICA

(Continued from Page 32)

ably not very distant when Ecuador will at least supply all its own needs. These are small now, the population, like that of Peru, being scattered, and the supply of motor vehicles and industrial machinery low. The per capita consumption of liquid petroleum is estimated at only two-thirds of a gallon for a population of 1,500,000. Most of this is supplied by importations from Peru; the remainder comes from local production or is brought from the United States with very slight exceptions.

Commodities Required by Colombia

Like Ecuador, Colombia has a production of petroleum which is absorbed entirely by its own needs, and has to be supplemented by importation. Only during the past several years has production become sufficiently large to reduce importations greatly, but at present refined products are brought in in perceptibly smaller quantities and the importation of crude has become negligible. The local refinery (only one at present is in active operation) now handles the native crude entirely, and its output has largely replaced former imports of light products. The demand for fuel oil has so far increased as to keep up importation, and kerosene imports in 1922 were considerably over the previous average, but the increased refining activity has cut down these quantities since. Gasoline importation already shows the decline which is appearing more slowly in the case of other products. Imports of lubricants and paraffin wax are still apparently increasing. The United States shares conspicuously in all these importations, most of the remainder coming from Curacao and Great Britain.

Chile Largest Consumer

Of the nonproducing countries, the largest consumption is in Chile, estimated to have used 217,000,000 gallons in 1923—a total second only to that of Argentina, and exceeding that country when their respective populations are considered. The imports of petroleum and its products are proportionately heavy, the United States supplying the largest amounts of all products, with the exception of crude and fuel oil, of which Mexico's shipments are largest. Both United States and Mexican shipments of these and other petroleum products have been gradually decreasing, however, during the last several years, while the smaller imports from Peru and Argentina are showing a perceptible increase. Total imports of kerosene appear to be decreasing, due, perhaps, to the high development of electricity for lighting purposes in some sections and to the cheapness of candles in more isolated and poorer parts of the country.

Brazil Second Largest User

Next to Chile, Brazil consumes the largest amount of petroleum products, although its per capita consumption is considerably below the average for South America. In 1923 the country is estimated to have used 109,000,000 gallons of petroleum products, all of which were imported. About 75 per cent of the gasoline and kerosene received comes from the United States, and also most of the lubricating oils. Mexico, however, supplies 90 per cent or more of the fuel oil imported and the balance comes chiefly from the United States. Remaining shipments of all these products are mostly from European countries, none of the 1922 imports being reported from South American sources.

Bolivian, Paraguay and Uruguay

Exploration, with the view of making Bolivia a petroleum producing country is under way, but production has not yet reached commercial proportions, and practically all the petroleum the country uses is imported. This is not a large amount. Crude brought from Peru by way of the Chilean ports answers the fuel requirements of the mining operations in the western part of the country, while in the east the largest demand is for kerosene, which is much used for lighting, even in cities. In the southeastern part, the importation is largely by rail from Argentine, but the Peruvian refineries supply much of this commodity to northern Bolivia.

The demand for gasoline is very light, and what lubricating oil is brought in is used mostly for mining machinery. Candles and paraffin wax, also from Peru, are imported in relatively large amounts, as the demand for candles is high in Bolivia.

There is no production in either Paraguay or Uruguay. The latter country imports petroleum products from the United States, the gasoline imports from this country having risen from 1,550,471 gallons in 1913-1914 to 2,848,275 in 1922 and 4,468,240 in 1923. Paraguay's importation of foreign products is handled largely through Argentina instead of directly and cannot therefore be accurately assigned to original sources. A yearly average of about 200,000 gallons of gasoline and 400,000 of kerosene has been estimated, and annual imports of lubricating oils are usually between 60,000 and 70,000 gallons.

General Expansion Anticipated

The present commercial significance of petroleum in South America, is in developing the use of its various products by the population there. The increased adoption of motor vehicles and of modern methods of manufacture means that the consumption will increase further. The future is likely to bring a more marked increase in production, in exportation and in commerce between the South American countries. The development of probable sources of supply in new districts will depend upon the opening up of transportation in the interior.

It appears likely that the demand for Mexico's crude will diminish in advance of that for the United States refined products, but in time it seems certain that South America can supply large quantities of these also to immediate neighbors. Two possible results are to be considered—one, that the use of petroleum products will so increase in South America as to keep consumption always in advance of production; the other, that South America's future importance to the petroleum trade of the United States may be greater as a source of crude petroleum than as a market for the refined products from this country.

FEARS OIL COMPETITION WILL RUIN COAL INDUSTRY

(Continued from Page 74)

employment by carbonizing our raw coal. As already stated, we have 145,000,000 tons of raw coal available every year, even assuming we go on selling 65,000,000 tons of raw coal instead of smokeless fuel and the gas and coke-oven industries are not altered. Modern scientific methods of carbonization now perfected will give on the average from 1 ton of coal 2 gallons of motor spirit, 18 gallons of crude dry paraffinoid oils, of which at least 50 per cent is available for Diesel oil and say 2 gallons is lubricating oil, and 30 lbs. sulphate of ammonia, together with 14 cwts. (70 per cent of the weight of the coal) of residual smokeless free-burning fuel. This means that if we treated the 145,000,000 tons of raw coal on these lines we should have available every year 435,000,000 gallons of motor spirit (twice our present consumption), 62,000,000 bbls. (42 gallons) of crude oil, of which over 30,000,000 bbls. is Diesel oil, with over 6,500,000 gallons of lubricating oil, 1,900,000 tons of sulphate of ammonia for the cultivation of the soil, and 101,500,000 tons of smokeless fuel.

DEMONSTRATING ENGINE

S. B. Gold, factory engineer for the Oil Well Supply Co., is in Casper, Wyo. to demonstrate the 2-cycle Oilwell gas engine, one of which is being installed in the Salt Creek oil field. This engine is a new type which is said to be more compact, is quicker to pick up speed, and has an enclosed crank case, removable bronze bushings and the air and gas are mixed by the crankcase before the mixtures goes to the cylinder.

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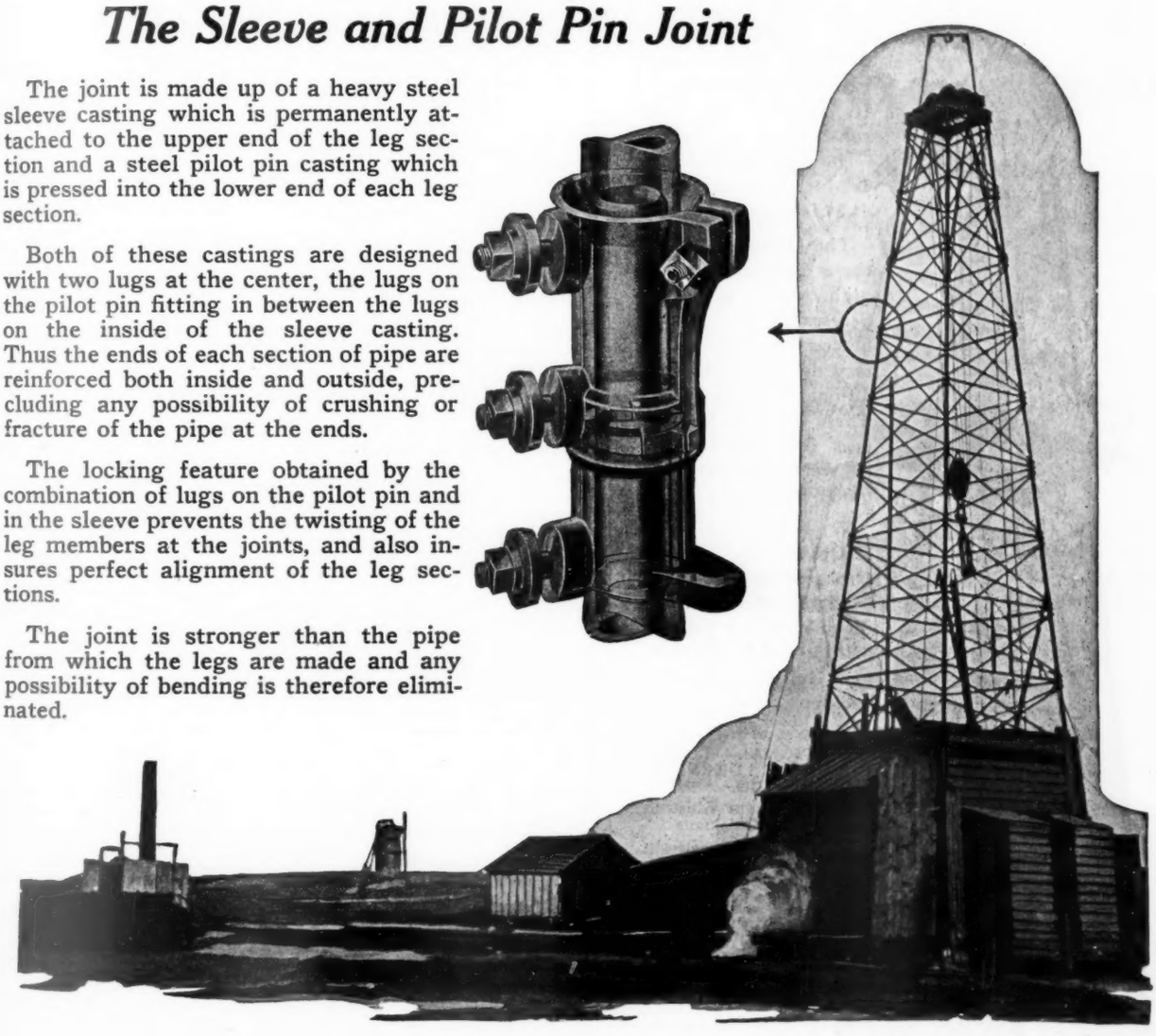
The joint is made up of a heavy steel sleeve casting which is permanently attached to the upper end of the leg section and a steel pilot pin casting which is pressed into the lower end of each leg section.

Both of these castings are designed with two lugs at the center, the lugs on the pilot pin fitting in between the lugs on the inside of the sleeve casting. Thus the ends of each section of pipe are reinforced both inside and outside, precluding any possibility of crushing or fracture of the pipe at the ends.

The locking feature obtained by the combination of lugs on the pilot pin and in the sleeve prevents the twisting of the leg members at the joints, and also insures perfect alignment of the leg sections.

The joint is stronger than the pipe from which the legs are made and any possibility of bending is therefore eliminated.



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National Turnbuckle Derricks are manufactured in 96-foot and 116-foot Rotary types, as well as in 80-foot Standard drilling type.

The 96-foot rotary type differs from the Standard type only in height.

The 116-foot rotary type differs from the Standard type, however, in two respects: Its starting legs are constructed of 8x10-inch pine, instead of 8x8-inch, and its base is 24 feet instead of 22.

The safety factor in these derricks is very high, and it is never necessary to sway-brace the higher rotary derricks with additional material. These derricks do not pass the safety point in weight suspension under 85 tons.

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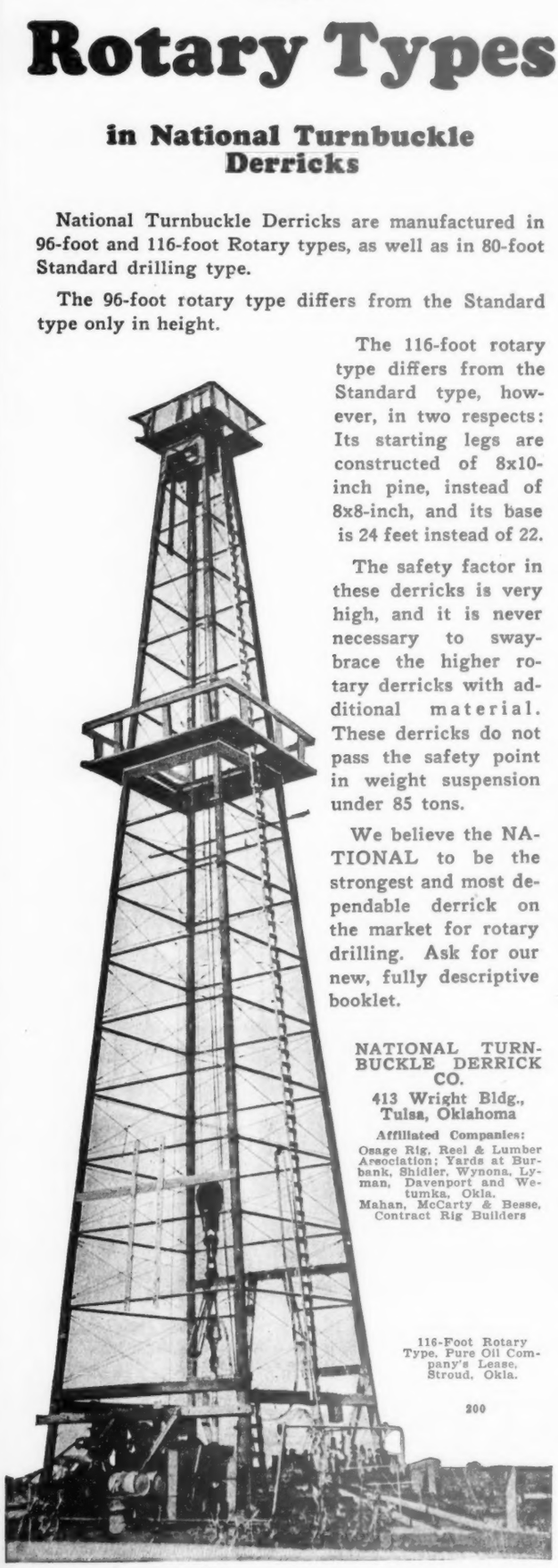

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GULF COAST

(Continued from Page 50)

McLeod and others have started No. 1 at Hockley Dome in Harris County. The Dome Development Co.'s No. 1 Schneider, west of Houston, is idle at 850 feet. Purdy & Mitchell's No. 1, near Westfield, west of Humble, is drilling below 3,000 feet. Wright and others' No. 1 Hunt, between Goose Creek and Barber Hill, is drilling below 1,330 feet.

In Jefferson County, at Big Hill Dome, the Houston Oil Co.'s No. 1 Gulf-Pipkin is below 2,980 feet and No. 1 Sun-Pipkin is at 2,809 feet. The Paggi Oil Co.'s No. 1, located 3½ miles south of China, is drilling around 800 feet.

In Liberty County, The Texas Co.'s No. 1 Ott, 7 miles west of the Batson Pool, is at 2,465 feet.

In Fort Bend County, the Rycade Petroleum Corp.'s No. 1 Nash, southeast of Damon Mound, is drilling around 1,900 feet. The Neiland Oil & Refining Co. has started a formation test with a gasoline rig 4 miles west of Rosenburg. The Gulf Production Co.'s No. 1 Moore, is at 355 feet. Gulf Coast Development Co.'s No. 3 Erie is around 4,000 feet. It is said locations have been made for two more tests there by the same company.

In Brazoria County, the Bryan Production Co.'s No. 1 Chester is sidetracking at Bryan Heights at 2,675 feet. In Chambers County, S. J. Hindman is starting No. 2 Smith, 4 miles northwest of Anahuac.

At Boling Dome in Wharton County, the Humble Oil & Refining Co. is drilling No. 1 Stratford, a formation test and the Gulf Production Co.'s No. 1 Cloud is rigging. E. F. Simms & Co. has a location for No. 1 Castleman.

In Jackson County, the Vanderbilt Petroleum Co.'s No. 1 Seliner is drilling around 2,700 feet. The Gulf Production Co. has been testing with the seismograph instrument for a saline dome on Vanderbilt prairie. The Jackson County Syndicate's No. 2 Drushell is preparing to test a gas showing at 2,700 feet and its No. 3 Brushnell is shut down at 600 feet.

The Bryan Petroleum Co.'s No. 1 Wathuber, 2½ miles southeast of College station, Brazos County, is reported showing gas at 1,500 feet. In Grimes County, McCauseland & Co.'s No. 1 Dodd, 3 miles west of Iola, is drilling around 1,800 feet.

Luling Field

Very little work is being done in the Luling Field, either on the Caldwell or Guadalupe County side of the San Marcos River. The Beaver Oil Co.'s No. 1 Tiller is pumping 150 bbls. Litigation has tied up the operations in the rived bed and a trustee appointed to take charge pending a court decision. On the norethwest side of the Guadalupe County development, the Walhunda Oil Co. nabndoned No. 1 Jones at 2,000 feet. The Grayburg Oil Co. abandoned No. 1 Winert, a semi-wildcat, at 3,003 feet. Lynch and others set surface casing in No. 1 Jennings. The Magnolia Petroleum Co.'s No. 11 Schubert is drilling around 2,100 feet.

Laredo Districts

In the Mid-Ojulas Pool in Webb County the Olsan Oil Co.'s No. 5 is rated as a 100-bbl. pumper at 1,697 feet. A location has been made for No. 6. The Morgan-Gibble Co. is bailing No. 2, survey 336, at 2,140 feet. In the Eastern part of Webb County, the Cole Petroleum Co.'s No. 6 is in a sand showing some oil at 1,700 feet. No. 5 is drilling around 2,100 feet. The DeTray-Johnson Oil Co. is rigging No. 1, near Cactus, 30 miles north of Laredo. The Boyd Oil Co.'s No. 1 Petty is below 3,400 feet.

In other pools, the Cornhuskers Oil Co. is drilling No. 4 with a derrick for No. 5. H. H. Palmer's No. 1 Walker is around 1,700 feet. Allsworth Brothers' No. 2 is at 1,450 feet. Barnhart Drilling Co.'s No. 1, survey No. 1264, is at 560 feet. Carson & Co. is drilling No. 1, survey 688, and the Weslaco Oil Co. No. 5 Moore-Kirkpatrick's No. 2 is around 1,715 feet. The Magnolia Petroleum Co. is drilling No. 14 Ochoa.

Calliham Field

A total of 92 tank cars were shipped from the Calliham Field during September against 94 cars in August. The Clayton Oil & Refining Co. has contracted with producers in the field for 12 tanks per month. The price is unknown. The Elliott-Jones Co. of San Antonio and the Oriental Refining Co. of Dallas, are also buyers of Calliham crude, taking an average of 20 cars per month.

No completions were reported from the shallow sand section of Milam County. The Roundtree Oil Co. has started No. No. 10 fee and the Erie Investment Co. No. 10 McClelland. Fritz Fuchs, of Thrall Field fame, is drilling No. 2 Brown at 860 feet. It is 6 miles west of Rockdale. The Sinclair Oil & Gas Co. has resumed drilling No. 1 Smith, 12 miles southeast of Cameron, after setting surface casing at 542 feet.

Southwest Wildcats

In Jim Hogg County, the Shasta Oil Co.'s No. 1 Holbein is reported late in the week as showing some oil in a sand at 2,344 feet. It is located 1½ miles east from the Henne Winch & Farias' flowing well. The Shasta Co. has taken over the holdings of the Forest Miracle Oil Co. In Hidalgo County, the Humble Oil & Refining Co. is starting No. 20-A, a formation test on the King land. The Gas Ridge Oil Co. is rigging No. 13 Hamilton in Bexar County. The Texas Co. has rigged No. 1 Church in Live Oak County, north of Oakville. The Houston Oil Co. has locations for Nos. 5 and 6 on the Cartwright ranch.

In Fayette County, Houston men drilling No. 1 Freytag, are at 800 feet. In Duval County, the Cooperative Oil Co.'s No. 1 Dunn is testing at 1,890 feet. The Humble Oil & Refining Co. has started No. 5 on the southwest side of the Palangua Dome. In Karnes County, the Allidor Oil Co. spudded in No. 1 Hyatt and shut down. E. B. Reynolds No. 1, near Runge is below 2,000 feet. The Tipps Oil Co. rigged No. 1 Atascosa County.

In Valverde County, the Rio Bravo Oil Co.'s No. 1 Moore is drilling around 450 feet. The Reclamation Oil Co.'s No. 1 Moore; East Del Rio Co.'s No. 1 Russell and Independent Oil Operators' No. 1 Moore are all shut down at 2,625, 2,710 and 3,115 feet respectively. The Arco Oil Co. abandoned No. 1 Kokernot ranch in Brewster County at 3,765 feet. Five other tests started in that county are all shut down at depths ranging from 1,800 tot 3,050 feet. In Borden County, Reeves and Parkhurst abandoned No. 1 Long at 3,210 feet. Tests started in Crockett, Culbertson, Loving and Hudspeth counties are all idle, except Loftus and others' No. 1 Slaughter in the latter county, drilling at 1,600 feet. The shallow sand tests started in Reeves County, two and three years ago, are standing idle. There are 10 of these, ranging from 415 to 4,500 feet. They might as well all be classed as abandoned. Terrell and Ward counties are in the same class, with two idle rigs in each.

In East Texas, the test drilled on the Collition land by Fort Worth men in Cherokee County, is reported to have headed up and flowed about 200 bbls. at 3,500 feet. John Colliton is in charge of the work. The test was drilled to 4,040 feet and then plugged back to the level mentioned.

In Anderson County, the Roeser Petroleum Co. quit No. 1 Via at 4,410 feet. J. C. McNeill and others' No. 1 Harper in Franklin County, is reported to be in the Woodbine sand at 3,020 feet. The Marland Oil & Refining Co. is rigging No. 1 Kelley in Kaufman County. Haynes and others' No. 1 Bounds in Henderson County, is testing a sand at 1,950 feet.

In Angelina County, Ferdinand Heine, of Pittsburgh, Pa., is drilling No. 1 Ellison, the first of a number of holes to be drilled to the shallow sand developed near Lufkin by H. C. Jennings.

ANOTHER WINNER

The Wico Electric Co. is desirous that the holder of No. 06630 in the registration plan of The Oil and Gas Journal at the recent Petroleum Exposition in Tulsa forward his identification—the cover of his coupon book with his name and address—to The Oil and Gas Journal that he may receive the prize due him.

Late News From the Fields

OKLAHOMA

The Waite Phillips Co. extended the production in the Cromwell Pool, in Seminole County a little northeast when its No. 2 Hall, NE cor. SW NW SE, Section 4-10-8 got sand at 3,408 feet, pay at 3,418 feet and drilled to 3,455 feet, the well flowing 3,240 bbls. the first 24 hours. The Cosden Oil & Gas Co.'s No. 1 Nancy Jackson, C SE SW, Section 4-10-8, found sand at 3,425 feet and drilled to 3,506 feet. The well started at 1,000 bbls. It may be drilled deeper.

The Sinclair Oil & Gas Co.'s No. 2 Hall, C NE NE NE, Section 9-10-8 got sand at 3,307-75 feet from which it is making 35,000,000 feet of gas. The Carter Oil Co.'s No. 6 Kiker, C NW SE SW, Section 9-10-8, found sand at 3,416 feet and was drilled to 3,464 feet but is only an 80-bbl. well. Waite Phillips Co.'s No. 2, C SW NE NE, Section 15-10-8, was on top of sand at 3,571 feet.

The Roxana Petroleum Corp.'s No. 1 Moss, C NE SE NE, Section 15-10-8, found sand at 3,575 feet and drilled into water at 3,588 feet. The well is showing about 150 bbls. of fluid. The Tidal Oil Co.'s No. 1 Galer, C NW SW SW, Section 14-10-8, the most easterly producing well in the field produced 1,490 bbls. on Monday of this week. Less than 1 per cent of b. s. was showing.

The Bradstreet Oil Co.'s test, C SW Section 9-22-9w, Major County, which was abandoned as dry at 3,025 feet, is being plugged this week.

Late reports on wells in the Burbank Field, Osage County, show the following results: Roxana Petroleum Corp.'s No. 9, SW cor. SE NE NE, Section 4-27-5, abandoned at 1,509 feet; Comar Oil Co.'s No. 3, C NW SE SW, Section 4-27-5, abandoned at 1,207 feet. Phillips Petroleum Co.'s No. 10, SW cor. SE SW NE, Section 9-27-5, shot with 10 quarts at 2,944-54 feet, 225 bbls.; same company's No. 6, C NE SW NE, Section 18-27-6, swabbed 200 bbls. from sand at 2,913-67 feet, shot with 120 quarts and made 500 bbls; Texas Co.'s No. 7, C NW SE NW, Section 18-27-6 sand at 2,930-77 feet, shot with 120 quarts, 400 bbls.

In the Tulsa district, C. M. Hawk's No. 2 Henson, CWL SE SW, Section 31-21-14, dry at 1,612 feet; Schermerhorn Oil Co.'s No. 1-A Ingram, NW cor. SE, Section 1-20-13, sand at 1,175-85 feet, 4,000,000-foot gasser; Andrew Erwin's No. 1 Maxfield, NW cor. NE, Section 8-20-13, dry at 1,440 feet.

In the Wewoka Pool, the Shaffer Oil & Refining Co.'s No. 4 Perryman, C NE SW NW, Section 32-8-8, got sand at 3,215 feet and at 11 feet in flowed 1,000 bbls. the first day.

In Kay County, the Blackwell Oil & Gas Co. shut in a 38,000,000-foot gas well, No. 1 Crouch, SW cor. Section 10-27-1w, sand at 3,418-26 feet. The Marland Refining Co. shut in No. 1 North, NW cor. NE NW NE. Section 12-26-2w, which showed a 55,000,000-foot gas production from sand at 2,537-43 feet.

In the Duncan Field, in Stephens County, Kennedy and others' No. 3 Hine, CNL NW SW, Section 25-1n-9w, is a 6,000,000-foot gasser at 1,930-35 feet. Winkler and others' No. 1-A Reynolds, NW cor. SE, Section 22-1s-8w, is good for 10,000,000 feet of gas. It is shut in.

In Carter County, the Humble Oil & Refining Co.'s No. 2 Jennings, C NW NW SE, Section 28-1s-3w, is swabbing 190 bbls. a day from sand at 3,368-95 feet. C. R. Smith's No. 2 Davis, C NW SE SW, Section 23-2s-3w, is flowing 150 bbls. from sand at 2,818-2,840 feet. The Rockland Oil Co. has a 50-bbl. well in No. 5 Dillare, NW cor. NE SW NW, Section 22-4s-2w in sand at 2,445-75 feet.

The Ozark Pipe Line Co. is surveying for a 4-inch pipe line from its Tonkawa-Arkansas City 6-inch line to the Braman Field in Kay County, where the Comar Oil is developing a Hoover sand production that promises well. The Royal Dutch-Shell interests have a half ownership in the Comar Oil Co. and also own the Ozark Pipe Line Co. The oil will be run to the Roxana Petroleum Co.'s refinery in Arkansas City.

MEXICO

By George Blardone

TAMPICO, Mex., Nov. 1.—With nine wells completed in the past week, Mexico can only claim two completions in the pay. Transcontinental Petroleum Co.'s No. 7 Paciencia repeats a previous performance in its No. 13, of the same lease, getting a producer good for 2,000 bbls. at 1,840 feet. This well, only a short distance from the other one, is 370 feet shallower. This can be taken as a maximum—depth considered. The only other producer is Cia. Pet. Franco Espanola No. 16 Limon (Marland Field), which at 2,462 feet is rated 100 bbls.

PENNSYLVANIA

Near Canonsburg, Washington County, Pennsylvania, Tague Lutton & Co. drilled in No. 2 on their Lutton farm. The well produced 400 bbls. the first 20 hours, got its production in the fourth sand and looks like a new fourth sand pool.

The Boulder sand oil well brought in by W. A. Shidemantle, F. P. Hamilton and M. T. Pew on the Donnelly heirs tract in Parker Township, Butler County, Pennsylvania, is estimated at 60 bbls. initial. Oil was found at 965 feet, the sand 30 feet thick, with 10 feet of open oil producing matrix.

ARCHER COUNTY'S BIGGEST

FORT WORTH, Tex., Nov. 3.—Increasing its flow to 1,400 bbls. per day, the Texhoma Oil & Refining Co.'s No. 2. northeast corner of Block 16, Thomas McCoy survey, E. A. Hausler land, south Archer-Olney district, is the biggest producer in the county for the year.

OKLAHOMA FIELDS

(Continued from Page 42)

east of Okemah, was drilling below 450 feet. The Atlantic, Blakeley & Carter's No. 1 Gray, C NE SW SE, Section 36-12-10, made 768 bbls. a day naturally from sand at 3,036-41 feet.

Blakeley & McFarland's No. 1 Johnson, NE cor. SE SE, Section 28-12-10, was estimated at 20 bbls. from sand at 2,942-50 feet.

The Atlantic Oil Producing Co. has a rig up for No. 1 Gray, C NW SW SE, Section 36-12-10. Burk & McMahon's No. 1 Fisher, SW cor. NE, Section 36-12-10, is good for 210 bbls. at 3,026-52 feet.

Webster and others have a rig up for No. 3 Tarvin, NW cor. NE SW, Section 3-11-11, was drilling below 400 feet. The North Baltimore Oil Co.'s No. 1 Taylor, Section 14-11-11, is a rig.

In Pontotoc County, Carter, LaSalle and others' No. 2 Brown, C NE SE SE, Section 32-5-5, was abandoned as dry at 2,960 feet. The Texas & Pacific Coal & Oil Co.'s No. 1, C SW SW NE, Section 31-4-6, was drilling below 300 feet.

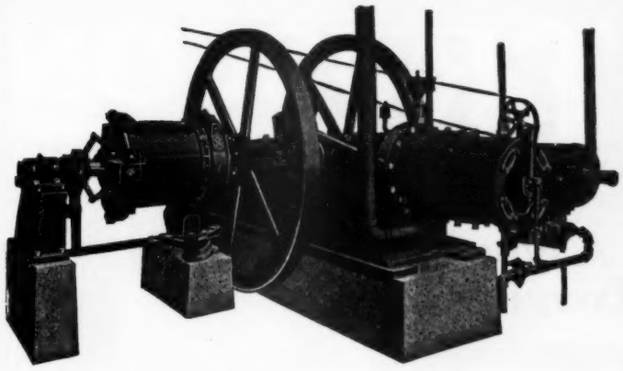
In eastern Muskogee County, M. E. Johnson had a machine in for a test on the Harris farm, SW cor. SE, Section 19-14-19.

Prince & Haley's test on the Bastin farm, CEL NE SE, Section 31-15-7w, Kingfisher County, was abandoned as a failure at 3,200 feet.

Pawnee County

In the Jennings Field in Pawnee County, Clifford & Van Eman's No. 2, Lot 20, Block 2, NE, Section 17-20-7, started at 300 bbls. a day after a shot at 2,615-49 feet.

The Cosden Oil & Gas Co. has started drilling No. 5 school land, SW cor. NW NW NW, Section 16-20-7, and No. 6 school land, SW cor. NW NW, Section 16, and has a rig up for No. 7 school land, CWL SW NW, Section 16. The Galvez Oil Co. has started drilling No. 5 Van Eman, CEL SE NE, Section 17-20-7.



A Well Drilling Record of Reliability and Economy

A contractor in the Bradford, Pennsylvania, field, drilling with two 30 HP Reid Gas Drilling Engines, has given us the following report.

He purchased his first Reid Gas Drilling Engine in November, 1922, and has drilled 11 wells with it. His second engine was purchased in September, 1923, and has drilled five wells. The depths of these wells ran from 1400 to 1600 feet, *and on none of them was the drilling time over 11½ days.*

Fuel costs were only kept on two wells and were $17.00 and $15.30 respectively, gas costing 30c M. The average daily consumption of gas was approximately 4500 cubic feet.

Time and fuel saving were not the only economies, however. In the drilling of these 16 wells, the total expense for repair parts was but *ninety cents* and the engines are good for many more wells.

An engine which can drill not only one but several 1400 to 1600 foot wells in 11½ days time for each, with a fuel cost of about $17.00 per well and a total expense for repair parts of but ninety cents and this on two engines and sixteen wells, *is reliable, durable and economical.*

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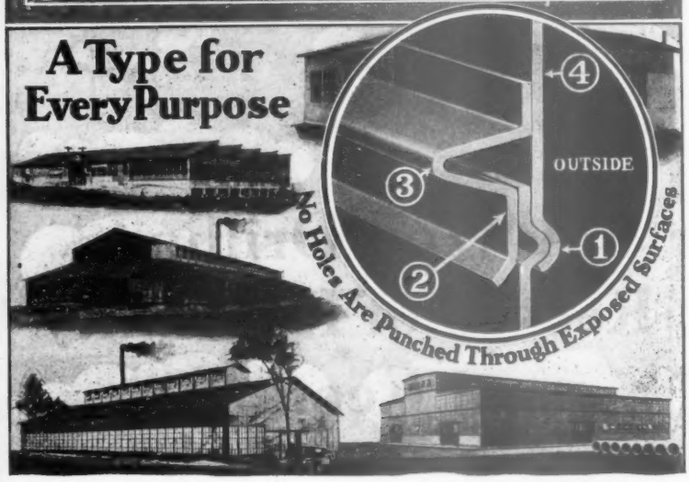

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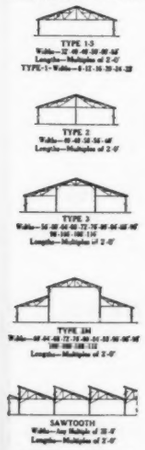

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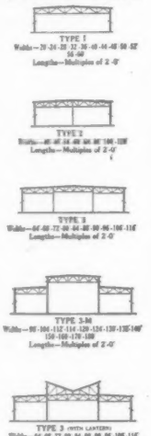

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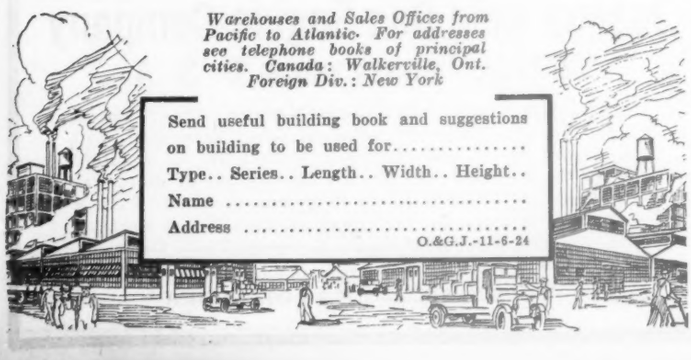

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Torsional Balance Subject of Comment From Texas Writer

In a letter to The Oil and Gas Journal, Cyrus Edwards, of Fort Worth, Tex., writes:

"I have been reading with keen interest an article in The Oil and Gas Journal of October 23, 1924, entitled 'Eotvos Torsional Balance Is Rapidly Gaining Prominence,' by Charles E. Kern, from Washington, D. C.

"During many years experience in the oil business, in the employ of Jennings Brothers and Fisher Brothers of Pittsburgh, Pa., and Louis H. Severance of Cleveland, Ohio, and New York up to 1923, and since 1913 operating in some of the States with geology as a fundamental basis, I have paid close attention to various hand devices, claimed to be practically 100 per cent as oil finders.

"These instruments have all been based on either electro-magnetic of electro-chemical principles. There are probably several hundred unscientific and scientific people in this country and Europe who are using some form of instrument in efforts to define oil pools.

"I have personally tested many of these so-called doodle-bugs in a laboratory, in refinery plants, in proven territory and in wildcat regions on anticlines and synclines. These tests have proven that the instruments with which I have experimented perform for numerous elements in the earth, oftentimes including petroleum. The inventors of these instruments, from university men down to illiterate ramblers seem to know very little about the chemistry of petroleum or they would never have offered their cock-sure services to the oil explorer.

"The scientific man, especially at Washington, looks with great disfavor upon hand instruments, and yet I have seen hand instruments in field tests do better than others. The forces which radiate from the earth are so extremely sensitive that someone will have to do very fine work based on electronic differentiation before proper distinction can be made between the radiant energy of oil and other elements. The proposition is elusive and illusive.

"Even if one were to devise an instrument that would perform exclusively for commercial oil in the earth, he would always have many discounting factors against him. For instance, possible migration of oil, especially in lime-stone formation, tight places in the oil bearing formation, oil shale which may contain great quantities of oil under great adhension and friction, etc.

"One of the companies mentioned in the article by Mr. Kern drilled a well about 7 miles southwest of Seguin, Guadalupe County, Texas. I understand that this well has recently been abandoned at a depth of about 3,400 feet. When the well was about 2,900 feet deep I talked with the driller at the derrick. He seemed to be quite intelligent. He said that the torsional balance had been used at this well, indicating that the location was favorable. It proved otherwise. In fact, the well was drilled on a gas dome on the fault plane several hundred feet down from the axis of the fault. The driller said that they might drill No. 2 between the dome and the axis of the fault.

"This driller said that he understood the torsional balance was very good for defining salt plugs on the Gulf Coast, but otherwise was unreliable. However, this balance may be a great help in eliminating barren places in oil structure.

"If geology can be improved by adding to the compass, microscope, aneroid, spirit level, transit, etc., another eliminating device, so much the better for the geologist and the oil man."

DEATH OF R. P. LOCKHART

Robert P. Lockhart, district manager in Texas for the Parkersburg Rig & Reel Co., died Wednesday night in Houston. His health had been failing for some time. Mr. Lockhart was a brother of H. J. Lockhart, general manager of the Parkersburg Rig & Reel Co., and also of W. E. Lockhart, of the Producers & Refiners Corp. of Denver. Mr. Lockhart formerly was purchasing agent for the Lucey Manufacturing Corp. at Houston and prior to holding that position had been with the National Supply Co. of Mexico.

N. W. PA. PRODUCERS RENEW GRADE PLEDGE

BRADFORD, Pa., Nov. 1.—Added impetus to the national campaign to establish the supremacy of lubricants refined from Pennsylvania oil was given here at the annual meeting of the Northwestern Pennsylvania Oil Producers Association.

R. J. Alexander of Oil City, secretary of the Pennsylvania Grade Oil Association, was the principal speaker. He told of the progress of the campaign which already has resulted in an increased demand for Pennsylvania oil and in a greater number of users of lubricants specifying Pennsylvania grade. Encouraging reports are being received at Oil City, the speaker said, from jobbers throughout the country showing the opening up of new consumption outlets and an increase in sales of Pennsylvania oil products ranging from 15 to 300 per cent in different localities.

The campaign is being financed by levying 1 cent a barrel on the production of each oil producer in the Pennsylvania fields. Mr. Alexander urged that the campaign be continued and predicted that within another year the brand "Pennsylvania" will have become universally accepted for what it represents—the highest grade oil in the world.

Combative propaganda by producers of cheaper oils, he said, is one of the things which the local producers must overcome in order to stabilize the Pennsylvania oil market independently of other oils, through the education of consumers to enable them to distinguish between refined products of varying qualities.

By unanimous vote, the local producers association agreed to continue the 1-cent per barrel assessment for next year and gave its whole-hearted endorsement to the work of the Grade Oil Association.

Annual reports of officers and committees of the association were given. President William J. Healey presided and reviewed work of the organization during the past year and told of its aims for 1925.

The following officers were elected for next year: President, A. E. Booth; T. B. Wilson, vice president; D. T. Andrus, secretary; W. J. Healey, treasurer; F. E. Ernst, assistant secretary and treasurer.

In addition to these officers, the following will be members of the board of directors of the association: F. D. Dorn, W. T. Piper, James Magee, O. F. Thompson, Lynn G. Smith.

The association will hold regular monthly meetings, henceforth, instead of meeting quarterly.

MRS. SARAH G. HAMSHER DEAD

BRADFORD, Pa., Nov. 1.—Mrs. Sarah G. Hamsher, a leader in philanthrophic and civic enterprises, died suddenly at her home on Congress St. She was 82 years old. Notable among her benefactions are Hamsher house, the Bradford Hospital Nurses' home and the Y. W. C. A. home. Mrs. Hamsher was born in Vistula, Ind. She came to Bradford with her husband, the late Lewis E. Hamsher in 1875, during the excitement incident to the oil discovery. Mr. Hamsher became a member of the firm of Hamsher & Weaver, which later merged with the Emery interests. A successful oil man, he amassed a fortune which, following his death, Mrs. Hamsher used principally to help people in need and to further the activities of worthy organizations. She is survived by four nieces, Miss Grace Emery, Miss Margaret Caldwell and Mrs. W. C. Purple of Bradford and Mrs. Ellis A. Agler of New York City; and two nephews, Earl and Lewis Emery of this city.

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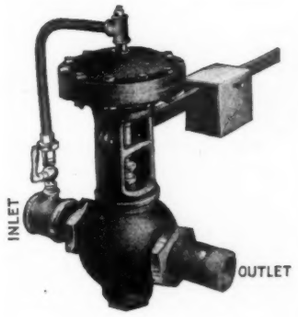

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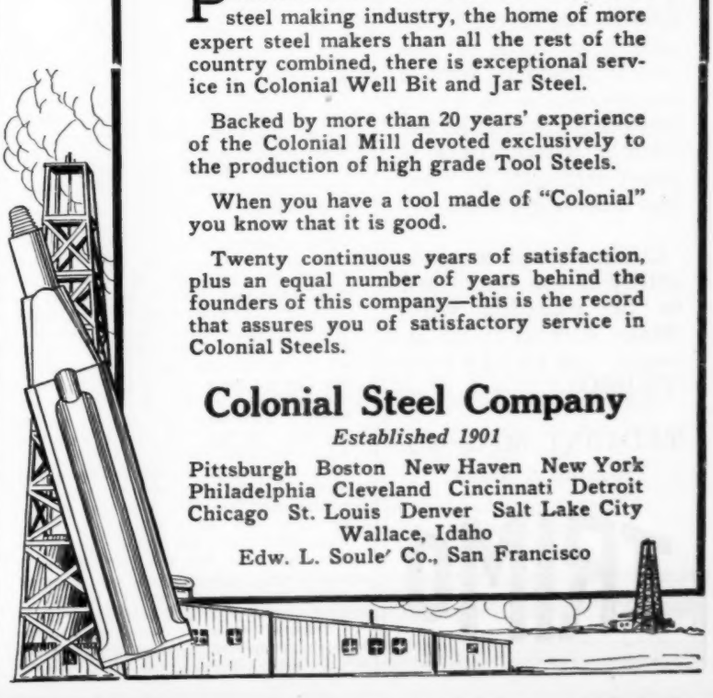

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SOUTH VERNON POOL CAUSES EXCITEMENT

(Continued from Page 23)

the eighth sand that carried at least a showing of oil. At 964-67 feet, there was a sand which tested 12 bbls. daily for a week; at 1,718-25 feet, another was good for 15 bbls. daily on a 5-day test, and at 1,759-60 feet, a sand making 20 bbls. was found.

The production in the 1,900-foot horizon was considered good enough at the time and the well was allowed to stand until Miss Thelma Wells drilled in her No. 1 in the southeast corner of Section 30. On August 23, a sand was found at 1,994-2,000 feet which was good for 25 bbls. daily. On September 29, the well was deepened to 2,016 feet and the output jumped to 700 bbls. daily, so that this producer may be called the real discovery well in the big pay horizon. Bridwell, Heydrick & Palmer followed soon after with their No. 1 Dill, an east offset to the Wells-Guiberson producer, finding the sand at 2,012-18 feet, good for 432 bbls. initially.

Late in August, George Church had encountered a gas sand at 1,254-59 feet in his No. 1 Dill, just two locations east of Bridwell, Heydrick & Palmer's No. 1 Dill, and shut it in for 11,200,000 feet of gas, with rock pressure of 485 pounds. This well has since furnished gas for fuel on most all of the tests drilling in the field.

Deepen Old Producer

When the Wells-Guiberson producer was helped so materially by deepening, the South Vernon Oil Co. decided to deepen the discovery well in the pool and on October 14, exactly nine months to a day after its first completion, the bit fell through the cap rock at 2,033 feet and gusher production spread all over the landscape. The first hour's gauge was 107 bbls. and then because of limited tankage the flow was pinched in through a 2-inch line, through which the oil has been pouring in a steady stream ever since. Tankage was erected as rapidly as possible and a large earthen reservoir was filled, yet the problem of handling the crude is still embarrassing to the company. The driller says that if opened up the well would easily maintain its initial flow of better than 100 bbls. an hour.

A condition of this well which is being studied carefully is the steadiness of its flow compared with the other producers to the north which are flowing by heads and have considerably greater gas pressure. In the opinion of most authorities, the structural high exists in the neighborhood of the Wells-Guiberson and offset producers.

The south offset to the Wells-Guiberson No. 1 came in October 11 flowing 490 bbls. from sand at 1,991-2,015½ feet. It was the Winnipeg Oil Co.'s No. 1. This well was being drilled deeper last Saturday in the hope of picking up the sandy lime from which its east offset was producing.

Offset Causes Excitement

The east offset is Bridwell, Heydrick & Palmer's No. 1 Stephens, the gusher which caused all of the recent excitement. Apparently a dry hole, its operators were wearing long faces after it passed the producing horizons anticipated, and then drilled into the pay at 2,034 feet, passing through it at 2,044 feet into shale and bottoming the hole at 2,047 feet. The production started off at gusher rate and while no accurate gauges were obtained, it probably made 150 bbls. an hour for the first two hours. Somebody attempted to gauge the flow into the tank with a stick and when the foam boiled up around the stick, the 300-bbl. an hour estimate was made. In the first 24 hours, the well did about 1,800 bbls. and then settled to 1,280 bbls. daily through a 3-inch line which leads up to the top of the flow tank. It has been holding fairly steady around that figure since then and would probably do better through a larger line.

Other oil wells are contributing to the field's production from shallower levels. The South Vernon Oil Co.'s No. 3 Stephens, a twin well to No. 1 was completed April 26 of this year for 83 bbls. from sand at 1,293-96 feet, and No. 2, about the twelfth of the same month, for 15 bbls. of oil and 100,000 feet of gas at 984-54 feet. No. 3 is now making about 20 bbls.

Dumas & Ellis found sand at 1,350-61 feet on October 18, estimated good for 12 bbls. in their No. 1 Stephens.

Last Thursday, Bridwell, Heydrick & Palmer found gas sand in their No. 2 Stephens, estimated at 10,000,000 feet of gas at 1,246-59 feet. This is a south offset to the Church gasser.

A test that apparently defines the northeastern limits of the field is the Dill Farm Oil Co.'s No. 1 Dill, in the southeast corner of the northeast quarter of the southwest quarter of Section 84. It is shut down for orders at 2,165 feet, after getting salt water in the horizons where the oil was expected. However, some geologists believe that this field may prove to be similar to the Electra Pool with respect to the spotty character of production and that oil wells may be found on the other side of this apparent failure.

List of Wells Drilling

Following is a list of the wells drilling in the field with their approximate locations and status:

O'Donohue and others' No. 2 Dill	SW	Sec.	84	Drilling, 605 feet.
Prince Brothers' No. 1 Zipperle	SE	Sec.	84	Oil show, 1,280 feet.
Ray & Massie's No. 1 W. B. Dill	SW	Sec.	84	Drilling, 1,510 feet.
Kemp & Birdsong & Clark's No. 1 Dill	SW	Sec.	84	Shut down at 2,165 feet.
Maer & Staniforth's No. 1 Zipperle	SE	Sec.	84	Location
McCamey & Sherrin's No. 1 Richardson	NE	Sec.	83	Rig.
Barclay & Meadows' No. 1 Stephens	NE	Sec.	83	Building rig.
Humble O. & R.'s No. 1 Castlebury	SE	Sec.	83	Building rig.
McCamey & Sherrin's No. 1 Richeardson	SW	Sec.	83	Drilling, 1,370 feet.
South Vernon Oil's No. 4 Stephens	NW	Sec.	83	Drilling, 410 feet.
South Vernon Oil's No. 5 Stephens	NW	Sec.	83	Drilling 200 feet.
Bridwell & Heydrick's No. 3 Stephens	NW	Sec.	83	Drilling 500 feet.
Bridwell & Heydrick's No. 4 Stephens	NW	Sec.	83	Drilling 300 feet.
Mulligan's No. 1 Waggoner	SE	Sec.	100	Building rig.
Winnipeg Oil's No. 1 Hawkins	NE	Sec.	100	Location.
Winipeg Oil's No. 2 Williams	NE	Sec.	100	Drilling, 1,300 feet.
Winnipeg Oil's No. 3 Williams	NE	Sec.	100	Drilling, 280 feet.
Okla-Texas O. & R.'s No. 1 Bowers	NW	Sec.	100	Rigging up cable tools over 1,00-foot hole.
C. F. Kolp's No. 1 Waggoner	SE	Sec.	99	Drilling, 850 feet.
Ray & Massie's No. 1 Williams	NE	Sec.	100	Drilling 1,200 feet.
Ray & Massie's No. 2 Williams	NE	Sec.	100	Rigging up rotary.
Wells & Guiberson's No. 2 Waggoner	SE	Sec.	99	Drilling 570 feet.
Mutual Oil's No. 1 Zipperle	NW	Sec.	80	Rigging up cable tools.
The Texas Co.'s No. 1 Castlebury	NW	Sec.	66	Location.

Summary: Locations 3; rigs and RU, 7; drilling, 13; shut down, 1; oil wells, 4; gas wells, 2; total, 34.

Partial Log of Well

The oil showings found in dusters surrounding the field are important for their bearing on the field's probable extent. Following is a partial log of the Heimerling well in Section 80, shown on the accompanying map:

Sand, small show oil	298- 320
Sandy lime, small show	350- 360
Blue shale, small gas	550- 561
Broken sand and shale	698- 720
Sandy lime, oil	808- 818
Sandy lime, oil	827- 850
Sand, oil	868- 901
Sand, oil	1,164-1,181
Gas sand	1,418-1,422
Sandy lime, ¼ bail per hour	1,536-1,542
Water sand, ¼ bail per hour	1,557-1,561
Sand, oil	1,677-1,681
Dry sand	1,812-1,814
Oil rand	1,871-1,872
Broken sand, oil	1,950-1,971
Water sand	2,018-2,035
Sand, small show	2,116-2,119
Hard gray lime	2,119-2,123
Blue shale	2,123-2,153
Hard shell	2,153 t. d.

FRANKLIN PRESIDENT OF OKLA.-KANSAS DIV.

The Oklahoma-Kansas Division of the Mid-Continent Oil & Gas Association met Friday, October 31, and elected Wallace C. Franklin, president; Charles F. Farren, Tulsa, first vice president; A. M. Landon of Independence, vice president for Kansas; Wirt Franklin of Ardmore, vice president for southern Oklahoma; John H. Kane, of Bartlesville, vice president for northern Oklahoma; Harry H. Smith of Tulsa, secretary and treasurer.

The following were selected to represent the division on the general executive committee of the association:

J. W. Bates, Roxana Petroleum Corp., Tulsa; Burdette Blue, Indian Territory Illuminating Oil Co., Bartlesville; Louis Campbell, Magnolia Petroleum Co., Oklahoma City; C. F. Colcord, North American Oil Co., Oklahoma City; H. N. Cole, Pure Oil Co., Tulsa; Burt H. Collins, Echo Oil Co., Tulsa; William N. Davis, (exofficio), Foster & Davis, Bartlesville; A. L. Derby, Derby Oil Co., Wichita; C. F. Farren, (exofficio), Tulsa; Wallace C. Franklin, (exofficio), Tidal Oil Co., Tulsa, W. W. Fleming, Mid-Kansas Oil & Gas Co., Tulsa; Wirt Franklin (exofficio), Ardmore; C. L. Freeland, Roland Oil Co., Bristow; John S. Griffin, Griffin Producing Co., Tulsa; R. A. Griffith, Sinclair companies, Tulsa; J. H. Hill, The Texas Co., Tulsa; John H. Kane, (exofficio), Phillips Petroleum Co., Bartlesville; Dana H. Kelsey, Prairie Oil & Gas Co., Independence, Kans.; W. L. Kistler, Producers & Refiners Corp., Tulsa; A. M. Landon, (exofficio), Independence, Kans.; Henry McGraw, Gypsy Oil Co., Tulsa; John H. Markham, Jr., Tulsa; E. W. Marland, Marland companies, Ponca City; Pat M. Miskell, Empire companies, Tulsa; Charles Owen, Owen-Osage Oil & Gas Co., Caney, Kans.; E. R. Perry, Cosden & Co., Tulsa; Waite Phillips, Waite Phillips Co., Tulsa; E. B. Reeser, Barnsdall Oil Co., Tulsa; Lee Scott, White Eagle Oil & Refining Co., Wichita, Kans.; J. J. Shea, Shea & Shea, Tulsa; W. G. Skelly, Skelly Oil Co., Tulsa; H. R. Straight, Empire companies, Bartlesville; James A. Veasey, Carter Oil Co., Tulsa; P. G. Walker, Jr., Tulsa; C. J. Wrightsman, Wrightsman Oil Co., Tulsa.

The new president, Wallace C. Franklin, is vice president of the Tidal Oil Co. He has been a very active and able worker in the association as a member of the executive committee and special committees ever since the Mid-Continent Oil and Gas Association was organized seven years ago.

SKELLY CO. STATIONS ARE OPENED AT TULSA

The "Skelly Better Gasoline" and Tagolene Motor Oils became available to motorists of Tulsa and vicinity during the past week when the Skelly Oil Co. started operating three filling stations which were purchased from the Eureka Oil Products Co. The Skelly Oil Co., which is one of the largest producing and refining companies of the Mid-Continent Field, recently decided to make its products available to its home city and the purchase of the three stations was the initial step to this end.

The company has completed a bulk station and has under construction three additional drive-in stations which will make its gasoline and motor oils available at all points in the city. The gasoline will be obtained from the El Dorado, Kans., refinery of the company. The stations will be operated under the direction of W. T. Atkins, in charge of the Skelly marketing division. F. W. Burford, in charge of the Tulsa sales office of the company, will have direct supervision of the Tulsa bulk and retail sales.

DOUGLAS LAKE DOME, COLO., FINDS WATER

(Continued from Page 107)

line in New Mexico and is down 3,200 feet.

One of the most interesting wells in Colorado is that of Flynn Brothers & Ache in the Fort Collins district. This is on Section 33-8-68 and is making fast time; at present it is at 1,500 feet and inside the 12½-inch casing. This location is east of the field as outlined in the old Roxana survey, but later surveys appear to show the axis of the structure lies farther east. The Flynn & Ache well will show whether this is right or not and if it is found true the new well is going to be located upon an excellent part of the structure.

On Section 13-12-89 in Moffat County, the Ohio Oil Co. is making a test of a structure on the Colorado Fuel & Iron Co.'s land and the hole is at 1,370 feet.

Number of Disappointments

The Colorado fields are not showing for the bright prospects of last spring. The Craig territory in the Moffat Field has narrowed down to a comparatively small production through the drilling of some dry holes about the edge of the pool. The Ohio has found the Pueblo structure dry where all the experienced oil operators conceded the Ohio stood an excellent chance of bringing in a good well and the same firm drilled a duster on the Haystack, another likely looking structure. A number of other wells have come in dry though not officially so stated because the tools and drilling equipment is still at the locations and these wells are carried as shut downs until definitely abandoned.

For the year's work, the oil operators of Colorado can place the Moffat, Wellington and Fort Collins fields as credits but the list of dry holes outweighs the productive fields by a large margin. The season's strikes are disappointing and the failure of the Wellington gasser to continue increasing its oil production has added considerably to the grief. Hopes were high that the Wellington Field would shortly go to oil when the gas pressure was let out through the discovery well and this hope was founded on the fact that the well had shown for a commercial producer when shut in. Now the oil flow seems to have ceased altogether and the well is only making gas, as it would appear the oil flow came from some pocket which was soon exhausted.

New Mexico and Utah

On the other hand, New Mexico and Utah are looking up, especially New Mexico. The Hogback Field on the Navajo reservation has all the earmarks of a real field of excellent oil and more producers are expected there. Utah was abandoned about two years ago by the oil men, but the strike of a big gasser at Cisco shows that some of that territory was passed up and there is evidence that Utah is due for another effort. The gasser at Cisco, is shut in and preparations are under way to rebuild the rig and try to drill the hole on down. The gas carries considerable gasoline with it and is considered sufficient to warrant the placing of a gasoline plant at the well now, but further drilling is hoped to show oil production.

Montana Operations

In the Sunburst Field in Montana, the Mid-Northern Oil Co. drilled in a producer good for 25 bbls. on the Howling lease on Section 9-35-2. The production was found in the Ellis sand at 1,660 feet. In the same field the Crumley & McKnight drilling on Section 4-34-2 found the Ellis sand at 1,485 feet and production. The well is estimated at 15 bbls. but will be shot.

The deep test being drilled on the east side of the field, Section 21-34-1 by the Potlatch Oil & Gas Co. is now a 3,330 feet and a second flow of gas was found in the Madison lime. Drilling has been bothered for a few weeks by water breaking through the cement, but this has been shut off completely and no further trouble is anticipated.

Salt Creek Completions

In the Salt Creek Field the Midwest completed eight new producers the past week. The Midwest Oil Co. found a producer good for 165 bbls. on Section 35-40-79 at 1,485 feet and another that started off at 722 bbls. in the scond Wall Creek sand at 2,230 feet on Section 14-40-79. The Midwest also found a producer good for 175 bbls. on Section 35-40-79 at 1,425 feet and another good for 200 bbls. on Section 11-40-79 in the second Wall Creek sand at 2,290 feet.

The Wyoming Associated Oil Co. brought in a producer on Section 23-40-79 at 1,160 feet that will do about 50 bbls. and has a producer good for 40 bbls. on Section 35-40-79 at 1,395 feet. The Salt Creek Consolidated has a producer good for 15 bbls. on Section 31-40-78 and the Wyoming Associated and Midwest together have a joint well on Section 12-40-79 that will make 165 bbls.

Pipe Line Runs

Salt Creek	65,500
Teapot	2,160
Big Muddy	3,630
Grass Creek	3,220
Elk Basin	1,060
Greybull	30
Rock River	3,650
Notches	230
Lance Creek	1,230
Poison Spider	660
Osage	330
Hamilton Dome	720
Lander	300
Byron	80
Pilot Butte	60
Lost Soldier	3,630
Ferris	110
Craig	1,380
Cat Creek	3,745
Sunburst	5,120
*Miscellaneous	1,285
Total	98,130

*Includes New Mexico.

New Questionnaire For Oil and Gas Men By Trade Commission

WASHINGTON, D. C., Nov. 3.—The oil and natural gas industries may now prepare for another investigation by the Federal Trade Commission under authority of the general inquiry directed by Senate Resolution 451, passed at the last session of Congress.

The commission will send out on the fifth of this month a questionnaire directed to the petroleum and natural gas industries calling for information with respect to the acreage held by companies and individuals owning petroleum and natural gas lands and their value as of December 31, 1923.

They will also be required to estimate the quantity of petroleum and natural gas recoverable from their acreage subsequent to December 31, 1923. This information is being gathered by States and will be published in such form as not to disclose the name of any company or individual replying to the questionnaire.

C .E. K.

OIL SECURITIES FIRM BUT NOT SO ACTIVE

(Continued from Page 106)

island is next to Curacao, at the entrance to the mouth of Lake Maracaibo.

The British-Mexican Petroleum Co. has arranged to take the oil at the island of Aruba, having an ocean tanker at that point now. British-Mexican owns a large interest in Lago. At Aruba Lago Petroleum is building a 1,000,000-bbl. storage and shipping plant. This concession was obtained from the Dutch Government.

From now until the end of the year Lago Petroleum expects to make shipments at a rate which will call for a production of 15,000 bbls. a day. At the first of the year a total of nine tankers will be available, which will permit the company to produce and ship about 30,000 bbls. of oil a day. The company now has four tankers on Lake Maracaibo and one on the way from England, where four other tankers are building.

BANDITS KILL OIL MAN

TAMPICO, Mex., Nov. 1.—E. M. Barnes, Jr., 24, in the production department of the Mexican Gulf Oil Co., was killed by bandits at Las Palmas. He had been with the Mexican Gulf for two years. His body is being shipped to his home in Waco, Texas.

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Marland, Okla.
Morrison, Okla.
New Martinsville, W. Va.
Okmulgee, Okla.
Pawhuska, Okla.
Ponca City, Okla.
Shidler, Okla.
Tulsa, Okla.
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Webb City, Okla.
Weleetka, Okla.
Woodsfield, Ohio
Winfield, Kans.
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Murray Tool & Supply Co., Tulsa-Cleveland, Okla.
Federal Supply & Machine Co., Augusta-Winfield, Kans.

George H. Klinger, Emlenton, Pa., Eastern Oil Field Representative, may be called upon at any time for service in connection with Wickwire Wire Lines.

Wickwire Spencer Steel Corporation
41 East 42nd St., New York

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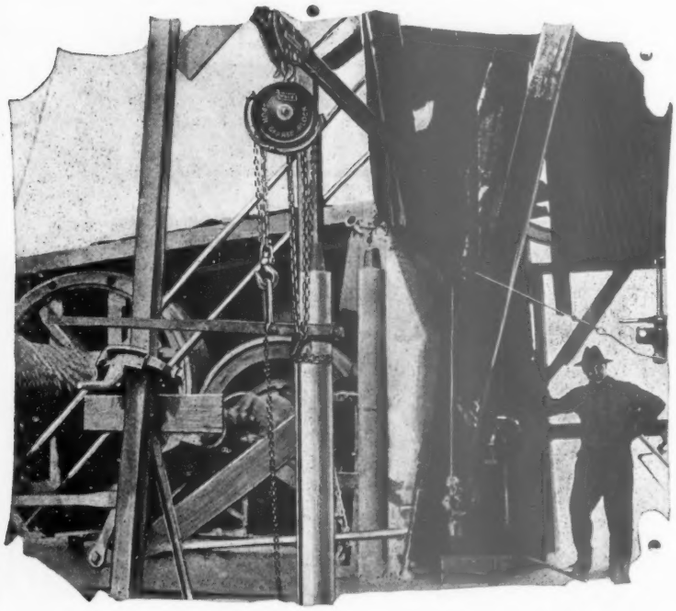
TRADE YALE MARK



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It should be YALE, and a Yale Spur-Geared Chain Block, because the line of steel suspension members gives security against damage from the shocks and surge overloads to which every piece of hoisting equipment may be subjected at any moment.

The popularity of the Yale Block in the oil fields is due to its reputation for brute strength and durability.

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Chain Blocks, Electric Hoists } For Lifts
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More Mid-Continent Crude May Be Sent East by Pipe Lines

Because of inability of oil refiners on the Atlantic Coast to buy crude oil in California in large quantities, the position of the interstate pipe line systems, reaching from the Mid-Continent to the Eastern Coast, is improving, according to the Wall Street Journal. While production of oil in California, approximately 600,000 bbls. a day, is in excess of that section's present requirements, placed at 500,000 bbls. daily, California oil men are not disposed to make contracts for sale of oil to Eastern refiners, as they foresee the time shortly when they will need all the oil they are producing. The effect of this has been to force the Eastern refiners into the Mid-Continent oil markets, and it will be necessary to transport Mid-Continent oil again in large quantities through the pipe lines.

Last year and during 1924 to date Eastern refiners bought large quantities of California oil at a more favorable price than Mid-Continent oil, and transported it by tank steamer from California through the Panama Canal to Eastern refineries. At the height of the movement more than 250,000 bbls. of California oil were shipped daily to Eastern ports. At present only 73,000 bbls. a day of California oil are being received at Eastern ports.

When the Eastern refiners were buying California crude they virtually went out of the Mid-Continent market, with the result that the shipments through the interstate pipe lines fell off sharply. The net earnings of the Buckeye Pipe Line, one of the interstate lines, in 1923 were $1,041,570, a decline of $702,826 from the preceding year. Net earnings of the Indiana Pipe Line in 1923 were $965,944, a decline of $566,911 from 1922. These losses were typical of practically all the pipe line companies.

Standard Pipe Lines

The most important pipe line companies comprise what is known as the Standard Oil group. Sixteen Standard Oil lines own approximately 48,000 miles of line. The total investment in these lines is placed at $340,000,000. Including Standard Oil of Indiana's interest in Sinclair lines, there would be an additional 5,700 miles in which Standard Oil is interested.

Of the strictly Standard Oil companies, the largest system is the Prairie Pipe Line Co., serving the Mid-Continent area. This system operates 10,700 miles of lines, and the investment is in excess of $80,000,000.

Buckeye is the second largest Standard Oil system, owning 6,500 miles of lines, with an investment of over $20,000,000. This system served the old Ohio fields, and in addition is one of the important connecting links in the transcontinental system from the Mid-Continent fields. The Indiana Pipe Line, another important link, operates 1,000 miles of lines, and the Illinois Pipe Line more than 3,000 miles.

These pipe lines are used exclusively for the transportation of crude oil, and their existence is one of the big factors which has made it possible for refiners to supply refined products to the public at reasonable prices. It costs about 75 cents to transport a barrel of crude oil from the Mid-Continent to Bayonne by pipe line. The freight rate by tank car on refined oil from the Mid-Continent is about 5 cents a gallon, or $2.10 a barrel.

REASONABLE

There must be a reason for the fact that The Oil and Gas Journal has more Classified advertisements than all other oil publications combined.

There is a reason—the readers of The Oil and Gas Journal are of the best class. They study the Classified Wants Section with interest and respectfully consider the advertisements of their fellow readers. Your advertisement would interest these men. Mail it now for next Thursday's issue.

MIDWEST CO. ORDERS RUN MILLION MONTHLY

CASPER, Wyo., Nov. 1.—The recent orders for material for the Salt Creek Field, placed by the Midwest Refining Co., have set a record, and on top of this big contract, the Midwest recently closed another for 300 large motors for pumping and drilling wells at Salt Creek, 300 counter shafts and 300 belts, besides many other smaller items that go to make an electrically operated producing well. Besides these orders for pumping equipment, the firm has also placed large orders for drilling belts, drilling tools and oil field supplies of every description. It is estimated that the Midwest has expended $1,000,000 monthly for the past nine months.

The new electric plant north of the Salt Creek Field is nearing completion, the electricians are now making the last connections at the plant and installing the instrument boards, while the linemen are putting the last touches to the transmission line that will carry the current across the prairie to the field 3 miles away. The steel frames of the windows are filled with glass and the plant has its heating outfit ready so that from now on the workers need not trouble about the weather. The big dam has been repaired where the cloudburst took out a portion of the spillway and is ready for the impounding of the water that will be used by the plant. It looks as though the current will be turned through the transmission lines before the first of the year and possibly before December.

This plant will start with two electric generators connected direct to steam turbines. The generators are rated at 12,500 k. w., and will turn at 1,800 revolutions per minute. The boiler installation that will furnish the steam will have a total of 1,300 horse power from four water tube boilers and carry a steam pressure of 275 pounds working pressure.

GAS AND OIL FINDS EXPECTED IN AUSTRIA

Austria has not yet become a producer of petroleum in a commercial way, but, according to Dr. Karl Friedl, it has good prospects. It is generally recognized, however, that while there is a practical certainty of finding productive natural gas fields, as regards liquid petroleum there is little probability of Austria becoming either a second Mexico or California, or even another Boryslaw.

Doctor Friedl is of opinion that a number of relatively small fields of the type of Egbell are quite likely to be found. The promising regions for finding oil in Austria are part of the Flysch zone, the Schlier formation of the basin lying between the Carpathians and the Bohemian "Masse," and the younger Tertiary basins. In neighboring lands all three are oil-producing. The Schlier formation is considered to be the most promising for oil of all the Austrian clayey marl which locally passes into clay schists which contain micaceous scales. Intercalated with this marly substance are lenses of hard chalk marls, bituminous schists, sandstones, and, occasionally, conglomerate.

LARGEST DIESEL ENGINE

The largest Diesel engine of its type in the world, 15,000 basic horsepower, is under construction by Blohm & Vose, of Hamburg, under license from M. A. N., German journal Schiffbeaut states. The engine will form part of the power unit in Hamburg Electricity Works, the capacity of which is 10,000 kilowats, and will have nearly twice as much power as the largest ship's motor now building in England, which develops about 8,000 basic horsepower.

BRITISH IMPORTS

Petroleum imports into the United Kingdom during the week ended October 20 totaled 35,000,000 Imperial gallons, compared with 13,250,000 gallons in week preceding.

"Ironcase" and Tin Meters
Metric Orifice Meters

GAS MEASUREMENT

Westcott Differential Gauges
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For Accurate — Constant — Economical Work

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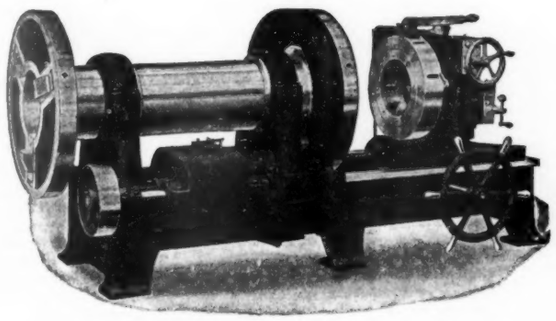

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BIGNALL & KEELER MACHINE WORKS of the N. O. Nelson Mfg. Co.,
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The "Manzel" Force Feed Lubricator

For Lubricating the Cylinders of Drilling Engines, Pumps, Compressors, Etc.

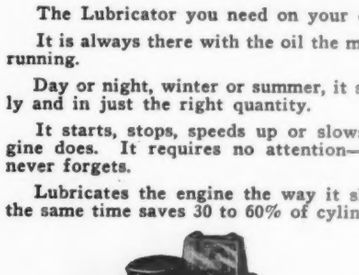
The Lubricator you need on your engine while drilling.

It is always there with the oil the moment the engine starts running.

Day or night, winter or summer, it supplies the oil regularly and in just the right quantity.

It starts, stops, speeds up or slows down just as the engine does. It requires no attention—never goes to sleep—never forgets.

Lubricates the engine the way it should be lubricated; at the same time saves 30 to 60% of cylinder oil.



"Manzel" Force Feed Lubricators are made with any number of feeds, and in various capacities. There is a size or style to fit every type of oil country engine, pump or compressor.

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Filters Two Kinds of Oil at Once

The Burt Double-Unit Oil Filter will receive two kinds of oil at once, cleanse them of all impurities and discharge them clean and the same as new.

Each of the two compartments is entirely independent of the other, and so compactly arranged that the filter takes up no more room than the ordinary single filter. Doubly serviceable—therefore doubly profitable.

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CROMWELL SAND PROLIFIC, PRODUCED 7,200,000 BBLS.

(Continued from Page 88)

record came about August 10 when it reached 62,000 bbls.

Mr. Rollin made an estimate of the possible production of the Cromwell at the close of this year, and placed the figure at about 25,000 bbls. from approximately 250 wells. Later he revised this estimate and placed it at 35,000 bbls.

Mr. Washburn cited the Elk Basin Field, of Wyoming, as an example in his discussion of the general principles of faulting. He advocated the theory that in ninety-nine faults out of one hundred there was no drop along the fault line, but rather the upthrow side of the fault was pushed upward. He also went into detail concerning his theories on the curvature of the formations along the fault plane, known as dry. Many technical men have been accustomed to consider drag as the result of friction. Mr. Washburn advanced the idea that the curvature of the formations was developed before the fracture occurred. Reverse drag also was discussed.

Production Record

Production record of the Cromwell Field, Seminole County, Oklahoma, from its beginning in January, 1924 to October 15, 1924:

Company—	Lease—	Location—	Acres	First production week ending	No. of Wells	Total Prod.
Section 4-10-8—						
Central	Hall	S½ N½ SE and SE SE	60	8/20	1	159,740
Laurel	Lester	W½ NW¼	80	10/ 8	1	6,187
Section 9-10-8—						
Gardner-Carter	Kiker	E½ SW¼	80	8/ 6	3	78,874
Pure	Bruner	SE¼	160	8/13	3	68,495
Sinclair	Kiker	W½ SW¼	80	8/20	1	163,710
Section 10-10-8—						
Burke-Greis	Brown	SE¼ SW¼	40	7/ 9	3	261,534
Carter	Brown	NE¼ SW¼	40	9/24	1	33,705
Kingwood	Berryhill	SW¼ NW¼	40	10/ 8	1	18,000
McMan	Little	W½ SE¼	80	8/ 6	1	57,580
Roxana	Brown	W½ SW¼	80	7/30	4	305,631
Section 15-10-8—						
Carter	Bruner	NE¼ SW¼	40	1/28	3	131,180
Cosden	Tarjo	NW¼ SE¼	40	10/15	1	8,491
Cosden	Tiger	SW¼ NE¼	40	9/17	2	26,322
Cosden	Willis	SE¼ NW¼	40	2/27	3	115,615
Cosden	Yarhola	S½ SE¼	80	7/23	2	67,504
Gypsy	P. Stidham	NW¼ SW¼	40	3/12	4	414,480
Gypsy	Z. Stidham	SW¼ NW¼	40	6/11	3	324,746
Gypsy	Willis	NE¼ NW¼	40	6/25	4	156,850
Mid-Kansas	Tenkins	NW¼ NW¼	40	6/ 4	4	389,010
Snowden-McSweeney	Tiger	NW¼ NE¼	40	8/ 6	1	54,971
Wilcox	Bruner	S½ SW¼	80	4/ 2	5	291,710
Section 16-10-8—						
Amerada	Bruner	N½ SE¼	80	5/20	7	479,990
Carter	Hall	NW¼ and S½ SW NW and NE¼ and SE¼ SE NW	60	9/17	1	38,628
Carter	Hill	NE¼ NE¼	40	9/17	4	316,996
Gessell et al	Stidham	SE¼ NE¼	40	3/19	4	670,540
Gilliland-Livingston	Proctor	W½ NE¼	80	6/11	5	269,720
Gypsy	Bruner	SW¼ SE¼	80	7/16	1	146,661
McMan	Baker	NW¼ NW¼	40	6/11	5	252,300
Waite Phillips	Proctor	E½ SW¼	80	8/27	1	28,000
Superior	Baker	NE NW and NW SE NW and NE SW NW¼	60	7/ 9	4	210,651
Section 17-10-8—						
Tidal	Harris	NW¼ NE¼	40	10/ 8	1	1,110
Section 21-10-8—						
Holmes et al	W. S. Key	E½ SE¼	80	1/28	1	10,301
Independent et al	Harjo	W½ NE¼	80	6/18	3	34,931
Tidal	Harjo	E½ NE¼	80	4/ 2	6	293,135
Berry	Yarhola	NW¼ NE¼	40	7/ 9	1	55,135
Carter	Yarhola	NE¼ SW¼	40	8/ 6	1	2,300
Cosden	Tiger	SE¼ NW¼	40	6/11	3	48,322
McMan	King	SW¼ NW¼	40	3/19	4	286,645
Savoy	Tarjo	W½ SW¼	80	2/14	2	91,540
Shaffer	Yarhola	N½ NW¼	80	6/ 4	7	459,137
			2,420		114	6,602,138

GASOLINE DROPS CENT IN COASTAL MARKET

HOUSTON, Tex., Nov. 3.—Gasoline dropped 1 cent, from 15 cents filling station and 11 cents tank wagon to 14 and 10 cents, respectively. The Gulf Refining Co. initiated the cut, to adjust prices, the announcement read. The reduction is effective to all Texas common points. All major refining and marketing companies promptly followed suit.

Gas oil, too, exhibits additional strength, being quoted at 4½ cents to 5½ cents. Most refiners are sold up six months ahead.

Fuel oil is being quoted by one or two refiners at $1.45-$1.50 as against $1.50-$1.60 by others.

The lubs market continues steady with last week's quotations. Refiners are looking for an advance in crude prices by the first of the year or earlier and are ready to speed up refined quotations. Most of them are sold up on lubs to December 1, some as far ahead as January 1. Present demand centers on 200, 300 and 500 viscosity pales.

OIL SHOWING IN IOWA GIVES RISE TO HOPES

An interesting showing of oil in a test drilled by Bailey & Givins, the Buckeye Drilling Co. and others, NW cor. NE, Section 26-69n-10w, Van Buren County, Iowa, was reported last week.

Sand was uncovered at approximately 875 feet, where gas and oil was developed. A half bailer of crude of about 37 gravity was taken from the well. Operations were shut down at it is not yet known when the well will be completed. Don Bailey of Muskogee, Okla., one of the owners, was quoted as saying on Saturday that the hole had filled 150 feet with oil and that the well had been drilled in 3 feet. A heavy flow of water was found about 40 feet above the oil sand but it was successfully shut off.

Fred T. Hildt, of Tulsa, and others have taken over a block of acreage which extends from Lee County, Iowa, across the Mississippi River into Hancock County, Illinois. They will start a test about the middle of November in Section 33-68n-3w. Mr. Hildt says three sands are believed to underlie the acreage of himself and partners, the Hoing at 500 to 600 feet; Trenton at 750 to 800 feet and the St. Peter at 1,050 feet. W. G. Osborne, the geologist, who surveyed the structure, believes that the St. Peter sand is the same as the Hominy sand, the third break in the Mississippi lime in Oklahoma.

Iowa was one of the States in the Union where oil was least expected. It was pretty thoroughly surveyed in years gone by by geologists of note who could say little in favor of it as a producing area. The Iowa Petroleum Club believed the southeastern part of the State, at least, might be oil producing and the club backed this opinion with its money by engaging a geologist and interesting Mid-Continent oil men in the territory.

TEXAS SEPTEMBER SALES

AUSTIN, Tex., Nov. 1. — Gasoline retailed in Texas during September reached a total of 32,908,000 gallons, on which a tax of $329,082 at 1 cent per gallon was paid, according to the report of the comptroller's office. Twenty-seven million gallons of the gasoline was retailed by six refiners. The Gulf Production Co. paid $94,787 gasoline tax; Magnolia Co., $64,358; The Texas Co., $30,367; Pierce Petroleum Co., $28,809; Humble Oil & Refining Co., $16,354 and Cities Service Oil Co., $13,435.

LITTLE OF INTEREST IN EAST CENT. TEXAS

CORSICANA, Tex., Nov. 1.—One good well in the Richland Field was all of importance the East Central Texas area had to offer in the past week. Two abandoned tests in wildcat counties are reported. Vry little new work was started in the territory.

In Falls County, Myrin & Stallworth have abandoned their test on the Stallworth farm, Graham survey, at 2,136 feet.

In Freestone County, John Hooser, who operates in the Powell Field, has a rotary rigged up for No. 1 Stubbs, Longbotham survey.

In Leon County the Mexia Marquest Oil Co.'s No. 1 Carrington, McKelway survey, was abandoned at 1,710 feet.

F. Frank Smith and others have a 2,500,000-foot gas well in No. 1 Kennedy, P. Varela survey, Limestone County, from sand at 2,942-47 feet.

In the Powell Field only small wells and a dry hole were reported. Garland Kent's No. 1 Collins, Smith survey was abandoned as dry at 2,300 feet. The U. S. Tex Oil Corp. has a 15-bbl. well in No. 3 S. D. Ramsey, Smith survey, in sand at 1,550-1,620 feet. The company has started No. 4 on the same farm. Bridwell & Gray's No. 2 Boyd, Mathews survey, made 10 bbls. the first day from sand at 960-1,003 feet. The same company has started up on No. 4 Harvard, Mathews survey.

In the Currie district Moore Brothers have a derrick up for No. 1 Quimby, Anderson survey. The Trapshooters Development Co. finished No. 5 Bounds, Hillhouse survey, in sand at 2,938-58 feet and the well flowed 125 bbls. the first 24 hours. Ben Strotman was drilling below 2,800 feet in No. 1 Marrow, Currie survey.

Tucker & Fox's No. 9 Davis, White survey, a 1,000-bbl. well in sand at 2,932-51 feet, was the best of the week's completions in the Richland Field. E. C. Meade and others' No. 2 Davis, Choate survey, got sand at 2,990-98 feet and a 90-bbl. initial production. The Sun Oil Co.'s No. 15 W. P. Brown, White survey, had an initial production of 250 bbls. from sand at 2,918-44 feet.

The Atlantic Oil Producing Co. was Choate survey; Boyd Oil Co. drilling at 200 feet in No. 9 Webb, White survey; timbers are in for No. 6 Allison, White survey.

BURFAU OF MINFS REPORT ON TETRAETHYL

(Continued from Page 107)

total period of approximately eight months to a known concentration of exhaust gas. These exposures were such that the lead content of the air breathed by the animals was similar to that which would result when exhaust gases of an average automobile using ethyl gasoline are diluted so as to contain about four parts of carbon monoxide to 10,000 parts of air (the permissible exposure for one hour from the standpoint of carbon monoxide poisoning.) This was a considerably higher concentration of exhaust gas than would ordinarily occur.

No Ill Effects

"The animals were observed throughout the entire test period for symptoms of lead poisoning, as colic, paralysis loss of appetite and loss of weight. Also, a careful examination of the blood was made for characteristic signs of lead poisoning. At various times, animals were killed and the entire tissues examined for effects of lead and analyzed for stored-up lead.

"After a period of approximately eight months daily exposure to the above conditions there was no indication of lead poisoning. The animals continued to grow and mature at a normal rate. One of the dogs gave birth to five puppies. These were continued on test with the mother and matured normally. The absence of lead poisoning may be due to the small amount of lead present in the exhaust gas mixture. Observations made on man showed that most of the lead in exhaust gases coming from ethyl gasoline when inhaled is again exhaled.

"The investigation carried out indicates the danger of sufficient lead accumulation in the streets through the discharging of scale from automobile motors to be seemingly remote.

"The investigation of the possible hazards of lead poisoning from exhaust gases is being continued at the Pittsburgh station of the Bureau of Mines, together with the first two phases of this study."

Action Regarding Sales

The Boards of Health of New York City and Philadelphia have prohibited the sale of ethyl gasoline. The New Jersey Health Department has requested the Standard Oil Co. to suspend sales of ethyl gas in the State pending investigation and the company has stopped sales in that State but the Ethyl Gasoline Corp. will probably continue the sale of the product generally where not specifically prohibited, basing its decision on experience to date, on expert advice as to the safety of the gasoline and particularly on the report of the Bureau of Mines. In the case of New York City no ethyl gasoline is sold there.

The Gulf Refining Co. has stopped the sale of ethyl gasoline until it has been established beyond a doubt that the compound is safe, explaining, however, that during the nine months the mixture has been used in the Pittsburgh district no person has been affected by it. Shortly after the Gulf's action the director of public health at Pittsburgh announced that the sale would not be prohibited as he did not think it dangerous to the public.

Method of Manufacture

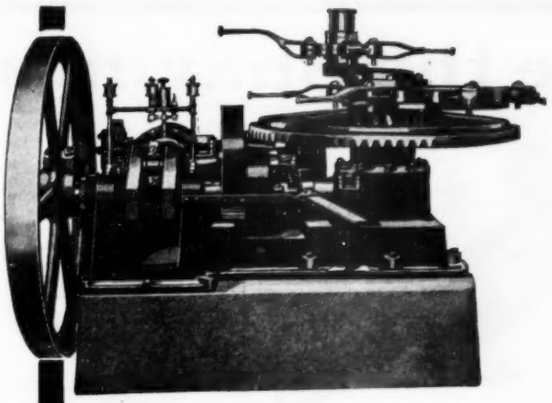
Tetraethyl lead had been known to science for 70 years but never was produced in quantity and there were no methods for manufacturing it on a commercial scale. It was while Standard Oil was developing a more practical manufacturing process, which would replace manual labor by automatic machinery and permit quantity production, that the fatalities occurred. The method of manufacture requires the melting of pig lead with a mixture of sodium. The metal is then put into a steel chamber into which ethyl chloride is introduced and the whole mass agitated. Numerous steel balls with ridges cut in their face rotate in the chamber to scratch the surface of the lead. The chemical reaction from the mixture of lead and chloride causes a gas to form which is run off into a condensor and the resultant liquid is tetraethyl lead. This liquid is diluted before shipped for mixture with gasoline at service stations and when the two are sold to the motorist there is one part of the base liquid, tetraethyl lead, to 1,000 parts of gasoline.

While this ethylized gasoline is now sold as an antiknock fluid in engines, its final utilization is in a new high compression internal combustion engine which several motor manufacturers have developed but could not put into automobiles because no suitable fuel or marketing facilities were available. In a layman's term, the result obtained by ordinary gasoline at the explosion point is like the blow of a hammer. The power of ethylized gasoline, when combustion is made, is that it follows the piston down with a push.

PURCHASES CONTROL OF NOWATA CONCERN

The Warner Caldwell Oil Co. of Titusville, Pa., has purchased a controlling interest in the Producers Oil Marketing Co. of Nowata, Okla. The Producers Co. is a distributor for the Sinclair Refining Co. in Nowata, Rogers, Washington and Craig Counties of Oklahoma and has bulk storage and a barreling plant at Nowata.

The purchase will give the Warner Caldwell Co. an outlet for their absorption gasoline plants. The company also has crude production in the Nowata area. Both service stations and bulk plant will be under the management of Carl E. Campbell, of Nowata.



Learn for Yourself About This Power

If you need compact, strong dependable power, you owe it to yourself to investigate this latest Pattin combination.

Pattin 4-cycle Gas Engine geared direct to single eccentric and disc pumping power. Equivalent to double eccentric. Makes possible perfect balancing of wells without swings. For wood or concrete foundation. Perfectly concentrated power, eliminating belts, and doing away with the large power house.

Made in 8 H. P., 12 H. P., 15 H. P., and 20 H. P. sizes.

Write us about this.

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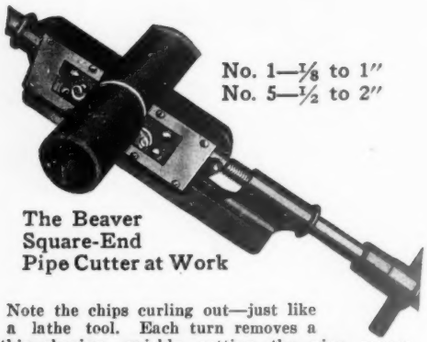
Marietta, Ohio
Branch Offices and Warehouses:
Tulsa, Okla.; Wichita Falls, Texas
Carried in stock by Frick & Lindsay Co. in Kentucky

PATTIN POWER

Note the Shavings



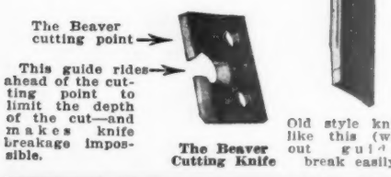
No. 1—⅛ to 1"
No. 5—½ to 2"

The Beaver Square-End Pipe Cutter at Work

Note the chips curling out—just like a lathe tool. Each turn removes a thin shaving, quickly cutting the pipe square without burrs, quicker and easier than wheel or roller cutters. Cutting knives feed automatically. Write for large descriptive folder—gives all the details and large pictures that tell a clear story that will interest you.

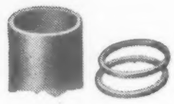
THE BORDEN COMPANY
514 Dana Ave.
Warren, Ohio

Beaver Knives are made of vanadium steel—they give hundreds of cuts on the hardest pipe and are easily re-sharpened.


The Beaver cutting point
This guide rides ahead of the cutting point to limit the depth of the cut—and makes knife breakage impossible.

The Beaver Cutting Knife

Old style knives like this (without guides) break easily.



The Beaver cut—and ⅛-inch rings cut with a Beaver.

Junk—used just five weeks—and its value gone. Save this cost—use Beavers.

Use Beavers and forget the reamer.

Hack saw blades snap with regularity—and every snap means expense.

You never use files when you use Beavers—don't need them.

STROUD DROPS OUT OF MAJOR CLASS IN SEPTEMBER, WEST COLUMBIA IN

The Stroud Pool, in Lincoln and Creek Counties, Oklahoma, fell from its position among the major pools of the United States in September, when its average production of the month declined to less than 15,000 bbls. a day. In the same month the West Columbia Pool, in the Gulf Coast region, stepped into the 15,000-bbl.-a-day class with an average of 15,631 bbls. during that month. The number of pools averaging 15,000 bbls. a day remained at 31 and their combined production for the month averaged 1,371,072 bbls. a day.

Long Beach led all fields with a production of 142,645 bbls. a day; Smackover, Ark., second, with an average of 118,367 bbls.; Tonkawa, Oklahoma, third, with 104,367 bbls.; and Midway-Sunset, California fourth, with 103,267 bbls. No other pool registered 100,000 bbls. a day.

Tonkawa showed the greatest increase over the month before, its August production having been 70,753 bbls. and its September output 104,367 bbls. a day. Most of the pools showed a slight decline from their output of August. Cromwell, Oklahoma, having dropped off from 60,898 bbls. to 45,060 bbls., the most pronounced decline of the month.

The 31 leading pools in August produced in the aggregate 1,387,777 bbls. a day, which was 16,705 bbls. a day more than the same number of pools averaged in September.

Following is the record for September and for other recent months during which the pools were in the major class of producers:

THE MAJOR POOLS OF THE UNITED STATES

	April Bbls.	May Bbls.	June Bbls.	July Bbls.	August Bbls.	Sept. Bbls.
California—						
Midway-Sunset	99,137	104,308	108,240	105,362	104,989	103,267
Long Beach	175,844	166,854	159,512	154,162	149,033	142,645
Santa Fe Springs	72,713	69,351	61,049	59,562	57,987	64,611
Huntington Beach	51,362	48,584	46,072	43,232	41,641	41,311
Torrance	54,801	57,538	57,229	57,308	56,186	54,313
Elk Hills	36,697	36,857	38,909	38,350	41,021	40,931
*Coyote	15,325	18,814	18,830	19,557	20,275	19,982
Kern River	19,266	18,478	18,693	18,504	18,652	18,291
Coalinga	37,175	36,030	32,869	32,715	34,764	21,433
Montebello	16,624	16,745	16,717	16,778	16,908	16,700
*Dominguez	.....	.....	.....	16,761	22,884	20,831
Wyoming—						
Salt Creek	95,595	92,780	91,009	90,176	87,467	89,899
Oklahoma—						
Burbank	105,864	87,024	91,819	84,246	75,415	74,217
Bristow	45,666	43,411	44,187	43,114	40,567	41,334
Tonkawa	35,291	35,211	36,674	27,443	70,753	104,367
Cushing	24,410	24,716	23,981	23,902	23,871	23,838
Hewitt	19,769	20,727	19,879	19,173	19,164	18,512
Healdton	16,769	16,710	16,575	16,466	16,075	16,177
Graham - Fox	20,062	18,905	19,866	16,712	15,614	15,127
Stroud	.....	16,456	22,716	18,114	19,179	.....
Cromwell	.....	16,570	25,719	46,317	60,898	45,060
Texas—						
Powell	117,157	103,106	93,491	85,764	79,330	78,611
Mexia	32,955	30,612	28,718	28,838	26,913	25,331
Burkburnett	20,499	20,019	19,634	18,594	18,852	17,660
Holliday	33,616	33,851	31,658	31,143	29,952	27,891
Richland	.....	.....	.....	.....	18,487	22,630
Electra	20,123	20,711	21,079	21,334	21,016	20,516
Hull	22,084	18,385	18,998	21,040	21,641	21,196
West Columbia	.....	.....	.....	.....	.....	15,631
Luling	28,850	38,300	46,200	48,089	44,667	31,184
Arkansas—						
Smackover	113,265	140,127	142,242	131,644	124,076	118,367
Louisiana—						
Haynesville	16,715	18,481	18,363	18,616	18,519	17,744
Total	1,347,633	1,369,661	1,370,929	1,364,016	1,387,777	1,371,072

EFFECT OF DECISION ON THREE-PART RATE

WICHITA, Kans., Nov. 1.—The seven-year fight of the city of Wichita to hold down gas rates will not result in any immediate reduction in gas rates but it annuls a ruling of the Kansas Public Utilities Commission of March 21, 1923, in which a rate of 40 cents per 1,000 feet was fixed as the price which the pipe line company could charge the Kansas Gas & Electric Co. at the city's gates.

In 1923 the city fought the increase in the wholesale rate of gas on the grounds that it would be passed on to the consumer. The city was temporarily defeated for the increase from 35 cents per 1,000 feet to 40 cents per 1,000 was granted but, City Attorney R. C. Foulston says it prevented the retail company, known as the Kansas Gas & Electric Co., from passing on the increase through the medium of a three-part gas rate.

In its ruling the Public Utilities Commission holds that the 40-cent gateway rate is unfair because it binds the Kansas Gas & Electric Co. to pay it without binding the pipe line company to stand by it. The pipe line company is doing an interstate business and under a ruling of the United States Court it is not under the jurisdiction of a Kansas commission.

The commission further rules that 40 cents is an exorbitant charge because there is now an abundance of gas available for use and rules that the gateway rate shall be left to the individual companies to settle through bargaining.

It was pointed out at the city hall that in case the pipe line company does not reduce its gateway rates, there is a rival company willing to deliver gas at the city's gates for 30 cents per 1,000 feet. In case the pipe line company does not meet the competition the city may demand that the Kansas Gas & Electric Co. buy from one of the companies offering cheaper gas.

The order requiring the installation of the three-part rate has been knocked out, and the question of installation of that rate is now left for future rulings in each individual city concerned.

At present the Kansas Gas & Electric Co. has limiting devices installed in most of the homes of Wichita. The three-part rate was to be operated through the aid of the limiting devices which permit the consumption of a limited quantity of gas depending on a demand charge. These limiting devices doubtless will be left in the homes pending outcome of further litigation.

In 1917 the first move for increased gas rates began, when the Kansas Gas & Electric Co. asked for permission to charge 80 cents per 1,000 feet. They mangd to get the price up to 58 cents per 1,000 feet, the present rate. Increased rates have been demanded because of the 40-cent gatway charge.

OFFER SCHOOL LANDS

Commissioners of the Land Office of the State of Oklahoma will receive sealed bids until 2 o'clock p. m., November 25, for oil and gas leases on School and State lands in Pawnee County, as follows: Tract No. 1, NE Section 36-22n-4e, 160 acres; tract 2, NE Section 33-21n-7e, 160 acres; and tract 3, NE of NW; S half of NW Section 33-21n-7e, 120 acres.

MARLAND STORAGE

The Marland Refining Co. now has 10,000,000 bbls. crude oil storage capacity at Ponca City, Okla., having completed recently 20 80,000-bbl. tanks. The company has approximately 5,000,000 bbls. of crude in storage, according to company officials. It also has a large amount of refined products in storage.

What Eats Profits?

Expensive replacements of working barrels, valves, balls and seats, with consequent loss of production—continual pulling jobs, excessive cut oil and B.S.—these are the things that cut into your profits.

Every item of the HOUGH line is designed to meet a need that will curtail your losses—to cut down your underground overhead.

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STANDARD PIPE CUTTING MACHINES

What Do YOU Look for in a Pipe Threader?

Enduring strength, swift, efficient action, operating economy—all these are what you naturally look for in a Pipe Threader and Cutter; and all these are inherent characteristics of the STANDARD.

Enduring strength resulting from sturdy construction; swift efficient action resulting from the use of wide chasers and constant speed motors; operating economy resulting from simplicity of construction and design have given the STANDARD the wide reputation it so well deserves.

Our latest bulletins give complete details of the STANDARD. Write for them today—also for our partial list of Standard users.

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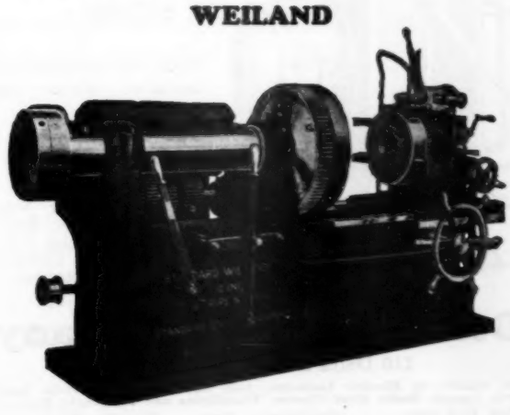

You can treat this regulator rough

HERE in the field where parts and service are usually a long way off and where equipment gets treated rough, this Davis Casing Head Gas Regulator will stand up. It won't stick or chatter. It will require almost no attention at all. That's about all you want, isn't it?

It has only one internal movable part, a balanced, bevel-seated disc with graduated port openings which is securely coupled to a flexible diaphragm. The counter-weight holds the valve open—the vacuum closes it.

Tell us where you are now so we can send your free copy of the Davis Catalog describing the entire line. Address the G. M. Davis Regulator Co. at 409 Milwaukee Ave., Chicago.

DAVIS VALVE
STEAM SAVERS SINCE 1875
SPECIALTIES

You could search the world over and never find a better lantern for the oil field—

DELTA

NO. 10 HAND LANTERN

$2.75 COMPLETE LESS BATTERIES

Uses two ordinary dry cell batteries which last for months.

You buy Economy, Safety and Service when you invest in a Delta.

At your supply house, or sent direct for $2.75, less batteries. Write for dealer discounts on Delta Flashlights and Batteries.

Delta Electric Company

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Standard Makers of Electric Lanterns, Auto Spotlights, Motorcycle Spotlights, Bicycle Lamps, Radio Head-Phones, Flashlights and Flashlight Batteries

New York City Export Dept. 10 Water St. | Chattanooga, Tenn. Faucette-Huston Co. | San Francisco Sanford Bros. 311 Minna St.

CALIFORNIA OIL FIELD OPERATIONS FOR SEPTEMBER

Beginning this month, the American Petroleum Institute, Pacific Coast office, initiates a change in the method of compiling California monthly statistics of stocks. Previous reports of stocks have included crude, residuum and tops held in storage in California. The figures for this month and subsequent months will include stocks of all products held by the principal marketing companies at all points in all Pacific Coast territory including British Columbia, Alaska and Hawaii.

The total production of crude oil in California for September amounted to 18,308,233 bbls., an average of 610,274 bbls. per day. This is a decrease of 6,274 bbls. per day under August production.

Total stocks of crude and all products increased during the month 56,333 bbls. The total stocks at the end of the month were 120,874,860 bbls. The total stock increase for 1924, up to September 30, was 4,147,418 bbls. Comparative figures as of December 31, 1923, August 31, 1924, and September 30, 1924, are shown in detail in this report.

Ninety-five wells were completed during the month with an initial daily production of 27,473 bbls., compared with 100 wells completed during August with an initial production of 33,954 bbls.

PRODUCTION

(Figures for production and stocks are in barrels of 42 gallons.)

District—	Barrels per Month	Daily Average Sept., 1924	Daily Average Aug., 1924	Sept., 192
Kern River	547,815	18,260	18,652	19,00
McKittrick	173,635	5,788	5,686	6,07
Midway-Sunset	3,098,017	103,267	104,989	74,44
Elk Hills	1,228,185	40,939	41,021	23,90
Lost Hills-Belridge	143,455	4,782	4,682	3,73
Coalinga	732,542	24,418	24,767	14,13
Wheeler Ridge	33,673	1,123	1,053	60
Watsonville	1,730	58	58	6
Santa Maria	232,978	7,766	8,068	8,61
Summerland	4,370	146	146	14
Ventura-Newhall	362,000	12,067	12,508	10,09
Los Angeles-Salt Lake	66,480	2,216	2,474	3,09
Whittier	64,622	2,154	2,234	1,44
Fullerton	345,209	11,507	11,323	11,31
Coyote	598,574	19,952	20,275	2,61
Santa Fe Springs	1,700,493	56,683	67,987	214,01
Montebello	503,580	16,786	16,908	10,49
Richfield	344,906	11,496	11,850	14,10
Huntington Beach	1,238,214	41,274	41,642	89,62
Long Beach	4,279,352	142,645	149,033	240,51
Torrance	1,629,453	54,315	56,185	7,41
Dominguez	900,620	30,021	23,884	1,13
Rosecrans	77,915	2,597	1,143	.....
Inglewood	410	14	.....	.....
Total	18,308,233	610,274	616,548	858,75
August	19,112,998	616,548		
Decrease	804,765	6,274		

STOCKS

	Sept. 30, 1924	Aug. 31, 1924	Sept. Stocks Increases	Dec. 31, 1923
Heavy crude, heavier than 20° A.P.I., including all grades of fuel	53,267,542	52,762,616	504,926	52,393,30
Refinable crude, 20° A.P.I., and lighter	41,279,329	41,041,685	237,654	36,898,34
Gasoline	9,651,408	9,560,466	90,942	7,696,81
Naphtha distillates	11,375,211	11,863,787	*488,576	13,114,09
All other stocks	5,301,360	5,589,973	*288,613	6,641,19
Total all stocks	120,874,860	120,818,527	56,333	116,727,44

*Decrease.

DEVELOPMENT

District	New Rigs Up	Active Drilling	Comp.	Dy. Init. Output	Active Prod'g	Abd. Wells- Drlrs.	Prodn.
Kern River	...	2	1	150	2,171	...	...
McKittrick	...	3	...	.....	283	...	...
Midway-Sunset	15	60	18	4,780	2,879	6	...
Elk Hills	1	13	3	460	238	...	...
Lost Hills-Belridge	...	5	...	.....	307	2	...
Coalinga	...	9	1	60	1,042	1	1
Wheeler Ridge	...	6	1	80	13	...	...
Watsonville	...	...	...	.....	6	...	...
Santa Maria	...	7	...	.....	301	...	...
Summerland	...	...	...	.....	135	...	...
Ventura-Newhall	...	39	1	100	572	...	...
Los Angeles-Salt Lake	...	...	...	.....	460	...	...
Whittier	...	10	...	.....	178	...	...
Fullerton	...	1	1	300	389	...	...
Coyote	1	3	...	.....	228	...	...
Santa Fe Springs	...	7	4	257	353	3	1
Montebello	...	10	...	.....	153	...	...
Richfield	...	10	...	.....	180	1	...
Huntington Beach	4	17	8	842	299	2	...
Long Beach	3	33	10	2,996	503	4	...
Torrance	17	57	38	9,032	451	...	9
Dominguez	15	16	8	5,801	22	3	...
Rosecrans	16	48	3	2,460	5	...	...
Inglewood	1	5	1	165	1	...	...
Miscellaneous drilling	9	91	...	.....	.....	5	...
September	82	452	95	27,473	11,169	27	9
August	90	488	100	33,954	11,080	37	1
Decrease	8	36	5	6,481	*89	10	*8
Average for year 1923	111	759	82	114,690	8,928	24	
Average for year 1922	115	608	67	43,700	9,410	17	
Average for year 1921	90	536	57	15,631	4,425	18	
Average for year 1920	77	403	49	14,125	9,299	13	
Average for year 1919	58	340	47	9,873	8,774	18	

*Increase.

RECENT DEVELOPMENT IN CRACKING

(Continued from Page 88)

distillate on treatment with acid and soda and redistillation gave 40 to 42 per cent of American Navy specification gasoline, the remainder being kerosene and gas oil suitable for further cracking. The residuum fuel was an excellent fuel, having a lower viscosity than the original, and amounted to between 25 and 36 per cent of the raw stock. The specific gravity ranged from 0.959 to 0.979. The coke produced varied between 16 and 26 tons per run. The gas and coke together amounted to 4½ to 6 per cent. Fuel consumption about 2 per cent of liquid fuel and the uncondensable gas produced and burned about 4 per cent=total 6 per cent. The plant runs continuously for about five days on stream.

The Cross process was originally a vapor phase cracking process, which developed into the present method when the advantages of liquid phase cracking became known.

It differs from the Dubbs process in the form of the apparatus, the pressure and temperature conditions, and the proprietors do not advise the use of heavy fuel residues without a preliminary distillation. It resembles the Dubbs process in so far as the heating and reaction zones are separate, and no heat is applied to the reaction vessel.

In the commercial operation of the plant heat is applied to the oil in tubes placed horizontally in series. These tubes are 24 feet long, 3 inches internal, and 4 inches external diameter. They are arranged in two banks, containing 45 tubes each, above the furnace, and from a continuous coil. The upper bank of tubes acts as a preheater and the lower is the cracking coil. The oil is pumped downward through the preheating coil and upwards through the cracking coil; then passes directly into the reaction

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IMPROVED *HIGH SPEED* HOIST

Here is a stronger hoist, a speedier hoist, an easier running hoist, a hoist with a much longer life, and a hoist with a greater factor of safety.

In fact, the *Wright Improved High Speed Hoist* can best meet all oil field requirements, for the simple reason that it possesses improvements found on no other hoists.

Look them over and you will readily see why the Wright is superior.

Ask for literature on our many styles and strengths.

16-D

"Let a Man Try One, and his lease will soon be all "Tex"

Top of "TEX"

That's what one operator said who uses "Tex" plunger Working Barrels and who KNOWS. Our problem is only to get you started—to get you to try just ONE.

The stuffing box feature alone makes the "Tex" many times more valuable than any other working barrel on the market. It packs itself automatically. The stuffing box is shown in this advertisement at the left. The upper gland, as will be noted, is perfectly free to move downward while wear in the packing takes place.

We suggest that you try just ONE and learn for yourself how the "Tex" quickly pays for itself by greatly reducing the number of pullings.

1—No cups to wear out.

2—No smooth finish necessary in the working barrel tube.

3—No metal plunger in contact with a metal cylinder.

4—Pumps floating sand.

"Tex"

5—Does not cut oil.

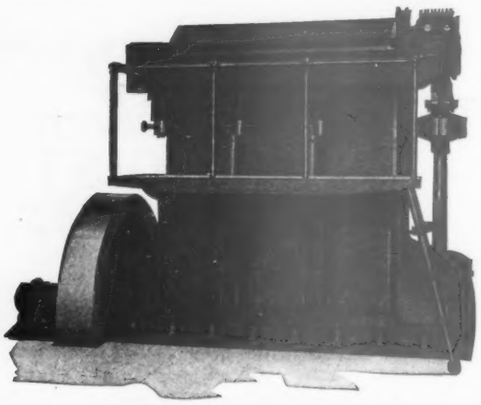
6—Eliminates frequent rod pulling.

7—Increases capacity and production.

8—Most economical working barrel on the market.

Bottom of "TEX"

BRADFORD MOTOR WORKS, Bradford, Pa.
Branch Factory & Warehouse—Tulsa, Okla.



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You profit by the *extra quality* inbuilt into every Foos Heavy Duty Oil Engine—in more years of dependable, low-cost service. Here is, most emphatically, the simplest high efficiency oil engine on the market—the outstanding product of a plant that has specialized in the manufacture of quality engines exclusively for thirty-eight years.

Four cycle—cold starting—airless injection. 30 to 400 H.P. Write for Foos Oil Engine Bulletin G-704.

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chamber at a temperature of about 470° C. Sufficient heat is applied to the oil to maintain its temperature in the reaction chamber until the reaction is complete.

The reaction chamber is a horizontal steel cylinder 40 feet long by 38 inches internal diameter and 3 inches thick. No heat is applied to the chamber, but it is heavily lagged to prevent loss of heat, and the oil is held in this chamber long enough to establish equilibrium between liquid and vapor phases; this period is estimated to be about 15 minutes, and results in a drop in temperature of about 50° C. between the inlet and outlet. It is stated that coke is not deposited to any extent in the cracking tubes, and the deposition is mainly confined to the reaction vessel.

Normal Conditions

Under normal conditions the amount of coke produced is less than 1 per cent. The discharge line from the reaction vessel is set at the liquid level and controls this level without any automatic device other than an ordinary relief valve. A pressure of 600 to 700-lb. per square inch is maintained on the system in order to prevent distillation and to keep the oil in the liquid phase. The oil from the reaction vessel is discharged to a vapor separator wherein a certain amount of fuel oil is collected. The vapors then pass to the dephlegmator, where the temperature is regulated to yield the required specification petrol, and the condensed fractions are withdrawn for further cracking along with raw oil stock. A condenser liquefies the gasoline and a gas separator removes the permanent gas formed in the process.

Sufficient gas is produced to provide fuel for the operation of the plant; an additional 1 per cent of fuel oil is necessary to bring the plant up to the cracking temperature. The plan will operate on kerosene, gas oil or any distillate, but heavy fuel oils are not recommended on accounty of the excessive amount of coke deposited in the reaction vessel. By combining a simple type of pipe still with the main plant residue may be proccessed.

The plant can run continuously on gas oil for about a week, or on kerosene for about three weeks, without cleaning.

The throughput of a modern double unit Cross plant is 2,000 bbls. per day, and it is stated a yield of 33 per cent of Navy gasoline can be obtained in one cycle from gas oil, 40 per cent of the same quality from kerosene distillates, and 20 to 25 per cent from fuel oil.

The total yields in running gas oil and recycling the residue, without the addition of fresh oil, are recorded by Cross as follows:

Gasoline (Navy)	64.8%
Fuel oil	24.8%
Loss	10.4%

But as usually operated the production is of the order already stated, and the yield on recycling the oil is about equivalent to the cracking of an equal quantity of original oil.

Dr. Roy Cross accentuates the factor of safety in cracking plant, and is of the opinion that cracking problems are not so much chemical as engineering problems, and for this reason he has taken care as far as possible that his plant should be able to withstand the conditions of temperature and pressure under which the operation is conducted.

Ellis Method

The latest development in the well-known Carlton Ellis cracking method is an instance of a parallel development by experience and observation towards the same object, for it is our opinion that vertical reactors will be more the rule than the exception in the future. The process is licensed by the Standard Oil Co. (New Jersey), and is similar to other plants using the process, but the Invincible Oil Co. has taken into account the different classes of crude of topped oil it will use, and has constructed a plant sufficiently flexible to allow any of these oils to be treated for the production of commercial gasoline. The plant is in two units, each of which is capable of a daily throughput of 2,000 bbls.

The oil is fed into coils under a pressure of 350 lbs., and natural gas is used as fuel. The oil usually passes through the coils at a rate of 5,000 gallons per hour into the "soaking drums," which are upright cylindrical reaction vessels. The quality of the crude stock determines how long the oil must remain in the drums, but it is held long enough to allow the time factor to have its effect, and is then released steadily, passing into horizontal vaporizing stills, where the cracked products vaporize and pass overhead into the fractionating columns. The gasoline produced can be treated as straight run spirit and does not require blending to bring it to commercial specification. It is claimed that a residuum fuel oil is obtained, after the gasoline has been removed, which is free from suspended carbon of excellent quality as a fuel oil.

There are two cracking coils each with a capacity of 2,000 bbls. per day, and the flexibility of the equipment is due to the "soaking drums" or upright reaction chambers, of which there are two to each system. They can be operated singly, in pairs, or can be omitted, according to the treatment necessary. On raw material which gives considerable quantities of coke the system can work on one chamber while the other is being cleaned, or the amount of coke can be divided by using both. On stocks requiring less time for cracking one drum is sufficient, and when it is desired to lower the viscosity of the fuel oil only the drums may be by-passed, without coming into action. The length of the running period varies with the crude stock and the products desired, but the average is six days on gas oil or crude. Likewise the field of gasoline will vary, but can be easily controlled.

This particular plant departs from the common practice of carrying pressure throughout the system, and is practically a combination of a cracking still and a crude still, and it is possible to see the quantity of oil that each still is running without relying on mechanical measurements.

The plant has been designed to give the utmost from an economical, as well as a safety in working, point of view. Heat economizers are used wherever possible, resulting in the ingoing oil entering the heating coil at a temperature of about 250 degrees Centigrade.

Auld, Dunstan, Herring Type

The Auld, Dunstan and Herring process is the direct result of several years' work which started when Dr. Thole and one of the present authors observed that the gelling property of heavy residues was to a great extent destroyed by heat treatment under pressure.

The object of research work at that time was the rendering of the residue available as a fuel which would pass the standard tests. Later the production of petrol along with liquid residue was required.

Further investigations led to the erection of a small plant, which was altered and modified until it bore little resemblance to the original.

The process is substantially a liquid phase operation throughout, and has advantages over the vapor or dual phase systems.

The development of the plant has been governed almost entirely by the following points as basic principles:

(1) The pressure should be sufficiently high substantially to maintain the oil passing through the plant in the liquid condition for all but the lightest products; this can be attained by using pressures of the order of 25 to 30 atmospheres. This high pressure also directs molecular scission towards the middle of the molecule, thus limiting the amount of gas and carbon formed.

(2) The yield of light spirit should be deliberately restricted. This for two reasons:

(a) The retention of a considerable mass of the heavier oil helps to hold up the carbon formed and to move it forward to the point most suitable for its deposition. This is especially important when cracking asphaltic residues.

(b) The greater the extent of decomposition the poorer the quality of light spirit or the greater the amount of gas and carbon formed. The reason for this is that the thermolytic decomposition of a paraffin hydrocarbon appears to proceed along definite lines, and at the best successive disruption of

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FOR 150 YEARS AMES SHOVELS HAVE BEEN RECOGNIZED AS THE STANDARD SHOVEL. Made of the finest steel, thoroughly seasoned ash handles—perfectly fashioned by skilled workmen whose fathers for three generations have worked in the AMES FACTORIES. Knowledge gained in 150 years of exclusive shovel making gives you in AMES SHOVELS a finished product that is absolutely the finest shovel made.

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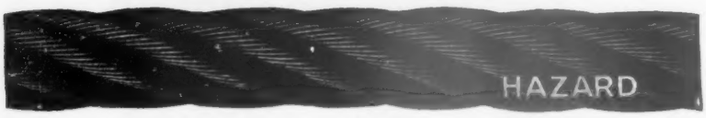

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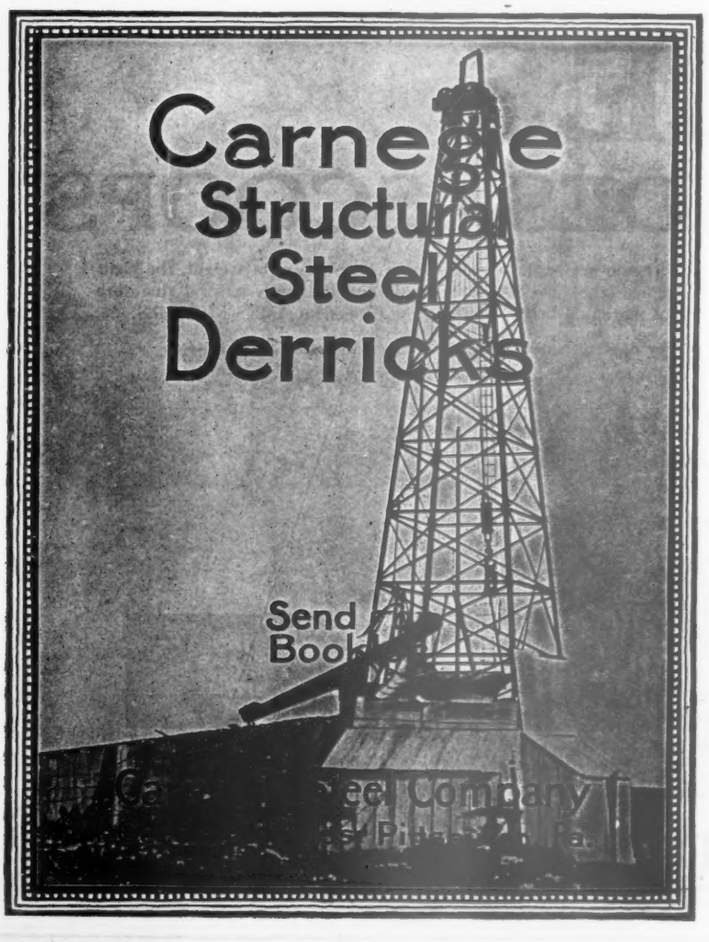

the paraffin molecules must increase the percentage of unsaturated compounds, or at the worst produce gas and carbon. This explains why a cracked oil is not so suitable as an uncracked one for the production of light products, and why the number of times an oil can be cracked is limited.

(3) For each oil there is a definite and fairly well defined narrow range of temperature at which appreciable decomposition occurs. Above that temperature decomposition rapidly increases.

(4) There appears to be a marked time factor, which is a function of the temperature, governing the products of light spirit. There is an appreciable lag between the moment of attaining the thermolytic temperature and the formation of the products, and the temperature must be maintained for a considerable time if the disruption is to proceed to the maximum extent corresponding to that temperature.

(5) It follows that the rate of flow of the oil must be a direct function of the temperature and controlled correspondingly.

(6) It is impossible to prevent the formation of measurable quantities of carbon, and this difficulty must be met by inducing the deposition of carbon in places suitable for its removal. The plant must, therefore, be of the simplest type with as few bends and corners as possible where carbon can accumulate. Each part must be readily accessible for taking down or for cleaning. Local overheating, which must tend to produc highly undesirable conditions, must be avoided.

General Procedure

On the basis of the above principles a general procedure has been developed.

Procedure. — The thermolysis of the heavy oil is carried out in three distinct stages, which in effect are zones of temperature and rate of flow. In the first or preheating stage the oil is carefully heated to a point, preferably not more than 25 degrees Centigrade below what we defined as its "Optimum temperature," which is the temperature at which the specific extent of decomposition occurs, once the molecular inertia has been overcome. In this stage the rate of flow is immaterial, and the preheater can be of any form compatible with efficient temperature control.

In the second stage the oil is quickly raised to a temperature about 20 degrees above the optimum. This stage is very important and must be carefully controlled. It is here that advantage is taken of the time lag to give the oil its impetus towards disruption without materially effecting decomposition. This portion of the plant, termed the "Thermolyser," consists of a single pipe or a number of pipes in parallel of such a bore that the oil can be rapidly heated throughout its bulk, and of such a length that the oil has passed through with minimum amount of actual decomposition, or, at any rate, of separation of carbon.

After leaving the thermolyser the oil passes forthwith to the "Reactor." This is a vessel of such dimensions that in passing through it the oil remains for at least the amount of time necessary to obtain equilibrium as regards the specific extent of decomposition required. By suitable means the reactor is maintained at or above optimum temperature. Owing to the endothermic nature of the reactions involved a certain amount of external heat must be supplied to do this. The position of the reactor is determined by the need of avoiding gas locks and shape by the accessibility necessary for cleaning. Since most of the carbon is actually formed in the reactor, and since it is of considerable size and the oil in it fairly quiescent, the bulk of the carbon produced in the process is deposited here. The cracked oil is drawn from the highest point of the reactor, condensed or dephlegmated, and discharged into a gas separator.

This plant has successfully cracked kerosene, gas oil, Scottish shale oil, paraffin sweats, Persian and Mexican fuels, but like other plants it will not give a high yield of spirit from heavy residues and at the same time run for

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Experience has shown that NO-CO-ROS will last several times as long as any ordinary ball and seat. In many wells they have lasted 10 to 12 months where other valves had worn out in 2 or 3 weeks. This means a yearly saving of many hundreds of dollars in increased production and decreased repair bills.

With NO-CO-RO Balls and Seats installed in your wells you can simply forget all about the valves for months at a time confident that they will keep the oil flowing in spite of the presence of sand, acid or water.

Backed by 17 Years of Experience and Square Dealing

NO-CO-ROS are made from a special alloy steel, scientifically tested by three different processes before they leave the factory, and are absolutely guaranteed against rust, corrosion or imperfect fits.

And when Norris Brothers guarantee a product by placing their trade mark upon it, you can know that it MUST be good. Norris Brothers have been manufacturing oil well pumping equipment for 17 years. Their organization and their products are well and favorably known wherever oil is produced or handled. Their reputation for square dealing is unquestioned and their trade mark is accepted by the purchasers of oil well equipment everywhere as the mark of service and satisfaction.

Try a set of NO-CO-RO Balls and Seats in your wells and if they do not come up to your expectations in every way the purchase price will be refunded to you. If you cannot get them at your regular supply house, write direct.

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an indefinite period. The length of time it can operate is limited by the size of the reactor.

Yields of light spirit can readily be obtained varying from 10 to 30 per cent. Heavy residues which will not pass the Admiralty fuel test may be processed, producing a limited quantity of spirit and a liquid fuel which does not gel on standing for a considerable time.

Bergius Process

The Bergius process has attracted considerable attention, particularly in countries possessing much coal but little or no oil. The early work of Bergius led to the formation of artificial coal from cellulose, wood, etc.; these experiments were intended to reproduce the natural methods of coal formation by variations in temperature and pressure. He was successful in producing a black powder, the carbon content of which was 84 per cent under a temperature of 349 degrees Centigrade and 160 atmospheres pressure. This substance possessed the properties of ordinary bituminous coal, and on further heating under pressure it passed to the anthractic type. Bergius discovered that this substance was susceptible to hydrogenation by heating to 400 degrees Centigrade in the presence of hydrogen for some hours, and 70 per cent of the product was soluble in benzene. In later experiments coal was mixed with oil, and it was found that natural coal was converted up to a 90 per cent yield of oil, provided that the carbon content of the coal did not exceed 85 per cent.

The products were of the consistency of thin coal-tar which yielded fractions suitable as fuel oil.

In the cracking of oil by the usual methods gas and coke are produced, the latter being a great hindrance to the continuity of working, and, further, the higher the carbon content of the raw oil the greater is the amount of coke deposited in the cracking plant, and for this reason it is not commercially possible to crack heavy asphaltic oils or residues to give a high spirit yield. Bergius took up the problem ,and by applying heat in the presence of hydrogen under great pressure stated that practically no coke and very little gas were produced when he cracked heavy oils at a temperature of about 450 degrees Centrigrade and 100 atmospheres initial pressure.

Bergius developed a laboratory apparatus capable of withstanding very high pressures. The essential part of the plant being a simple linear joint, a double cone, making a metal to metal connection, was found to be efficient under the conditions of working.

Commercial Unit

The commercial unit differs little from the experimental plant. The apparatus employed consists of a heavy horizontal steel cylinder. Inside the cylinder there is a cast-iron vessel and between them a current of highly-heated inert gas, CO_2 or nitrogen, at the same pressure as the oil and hydrogen within the inner vessel. The greater portion of the pressure is thus maintained by the outer shell.

Oil and hydrogen are preheated and sprayed into the autoclave continuously and the light products are removed as rapidly as they are formed, the high boiling fractions dropping back for further hydrogenation. The heavy residue is continuously withdrawn from the bottom of the vessel.

Heat exchangers are arranged for both the out-flowing products and the outer heating nitrogen.

The system of heating by means of inert nitrogen reduces the risk of accident and maintains a temperature which varies not more than 5 degrees Centigrade for weeks. Control is operated from a central switchboard placed some distance away. Safety of the operators is thus assured.

In the commercial working of the plant at Rheinau the preliminary laboratory experiment determines the best conditions for rapid and efficient hydrogenation. The autoclave is of 5 litres capacity and is charged with a weighted quantity of oil, hydrogen is pumped into a definite pressure and the vessel is heated for about an hour by gas jets and rotated in a

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Thousands of KINNEY PUMPS are telling the same story of consistent efficiency in refineries that dot the map of the United States and foreign fields. Low cost operation, low cost maintenance, trouble-proof service under all conditions,—these are the reasons why so many plants are depending upon KINNEY PUMPS—and why it would be profitable for you to investigate this pump in both its types—steam jacketed and plain.

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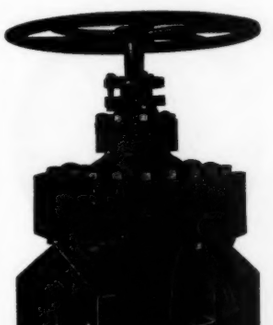

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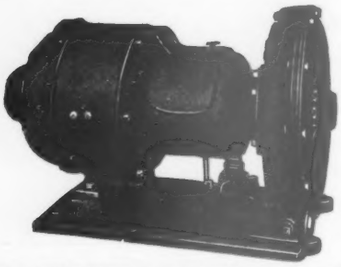

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The design and construction of the EMPIRE are entirely different from that of any other type of oil meter. EMPIRE accuracy *lasts*.

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horizontal position at about 60 revolutions per minute.

The pressure increases at first, but as hydrogenation proceeds it gradually falls off and eventually becomes more or less constant, thereby differing from the ordinary cracking process, where the pressure steadily increases, even when the temperature becomes constant. The apparatus is allowed to cool, and samples of gas are withdrawn for analysis to the amount of hydrogenation absorbed being thus ascertained. The autoclave is finally opened and the contents weighed and distilled.

In the commercial unit the autoclave is 30 feet long and 3 feet in diameter, placed on concrete slabs sloping towards the closed end. It is fitted inside with a stirring device which penetrates to the far end. The heating is effected by passing nitrogen through coils, heated in a furnace, then through the annular space between inner chamber and the heavy steel wall of the autoclave.

Plant at Rheinau

The plant can deal with 50 tons per day, and as no carbonization occurs continuous working for an indefinite period is practicable. The hydrogenation is in most cases accompanied by very little thermal change, but on the whole the reaction is believed to be slightly endothermic. The final pressure reached in some cases as high as 280 atmospheres.

With regard to the hydrogenation of coal the continuity of the process is brought about by grinding the coal to pass a 400-per-inch mesh sieve and mixing with oil. This mixture can be circulated by pump.

Bergius claims that any coal containing less than 84 per cent carbon, on an ash free dry basis, can be successfully hydrogenated at a temperature of about 400 degrees Centrigrade and pressure up to 200 atmospheres, with the production of hydrocarbons similar to petroleum distillates.

The hydrogenation of coals containing more than 84 per cent of carbon has not been successful.

As an example of the work done by the Bergius plant a test made on a heavy residue may be quoted:

The properties of the ingoing oil were—

Sp. gr. at 15° C.	.896	[wood
Viscosity at 20° C.	.812 Engler=237 Red-	
Flash point	77° C.=171° F.	
Hard asphalt	.84%	
Sulphur	1.02%	

Engler distillation—

I.B.P. 198° C.			
210°	1	% by vol.	
250	6.5	"	Dist. p.c. by lot=23.7
270	13.0	"	" S.G. =.821
300	27.5	"	
Residue	75.7% by lot sp. gr. .921.		
Loss	.6.		

The apparatus was run continuously and 4,650 kilos. of oil were put through.

The yields were:

Distillate	84%
Residue	8%
Gas	8%

The distillate contained:

Benzine	30%
Kerosene	25%
Gas oil and fuel	37%
Gas and loss	8%

The hydrogen consumption was about 1 per cent and the benzine after refining with less than 1 per cent acid and soda was water white and contained .07 per cent sulphur. The kerosene was slightly colored and both benzine and kerosene had a pleasant color. Fuel consumption was about 6.5 per cent and the gas produced contained about as much free hydrogen as is required for the Berginization of the oil.

Opinions differ as to Bergius' claims regarding hydrogenation of the liquid products produced by this process, and different investigators have been working on his method.

BIDS ACCEPTED

OKLAHOMA CITY, Okla., Nov. 1.—The Marland Oil Co. was awarded by commissioners of the State land office an oil and gas lease to 160 acres of State land in the Duncan oil field of Kay County near the Kansas line for $403,000 cash bonus. Another tract in the same section was awarded to the Phillips Petroleum Co. for a bonus of $126,000 cash and $25,000 to be paid out of oil. It is said Phillips asked to withdraw the bid but the commission declined to permit it.

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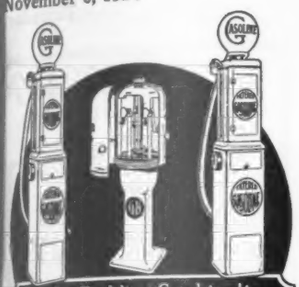

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DETAILED OPERATIONS FOR SEPTEMBER, 1924

(Continued from Page 42)

EAST CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Navarro	18	7,868	4	0	7	28	35
Miscellaneous	1	0	1	0	7	46	53
Total Oct.	19	7,868	5	0	14	74	88
Total Sept.	37	12,535	12	0	10	50	60
Difference.	18	4,667	7	0	4	24	28

N. LOUISIANA AND S. ARKANSAS

Summary of Field Operations

Districts—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Union County: (Smackover & El Dorado)	26	2,445	5	2	18	41	59
Ouachita Co.: (N. Smackover)	26	1,840	1	1	13	44	57
Stephens Field: (Columbia & Ouachita Counties	3	50	0	0	1	1	2
Nevada Co.	1	100	0	0	2	1	3
Bellevue	4	10	2	0	0	2	2
Caddo	3	0	2	1	2	7	9
Cotton Valley.	9	8,925	0	3	8	14	22
La. wildcats.	14	0	1	13	11	50	61
Ark. wildcats.	5	0	5	0	4	36	40
Total Oct.	91	13,370	16	20	59	196	255
Total Sept.	102	4,865	34	17	59	204	263
Difference.	11	8,505	18	3	0	8	8

ROCKY MOUNTAIN AREA

Summary of Field Operations

WYOMING

Field—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Big Muddy	0	0	0	0	0	3	3
Salt Creek	40	4,952	2	1	68	99	167
Big Horn Basin	5	195	2	0	7	55	62
Lost Soldier	5	425	0	1	3	46	49
Rock River	2	325	0	0	0	21	21
Fremont Co.	2	85	1	0	0	30	30
Osage	2	40	0	0	7	10	17
Natrona Co.	0	0	0	0	1	27	28
Lincoln Co.	1	25	0	0	2	10	12
Baxter Basin.	0	0	0	0	2	12	14
Miscellaneous.	1	0	0	1	0	18	18
Total Oct.	58	6,047	5	3	90	33	421
Total Sept.	110	17,238	1	5	89	339	428
Difference.	52	11,191	4	2	1	8	7

MONTANA

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Sunburst	15	960	4	0	20	38	58
Miscellaneous.	2	75	1	0	9	99	108
Total Oct.	17	1,035	5	0	29	137	166
Total Sept.	20	5,200	5	2	23	138	161
Difference.	3	4,165	0	2	6	1	5

COLORADO

All fields	2	0	2	0	17	68	85
September	2	3,000	1	0	8	46	52
Difference.	0	3,000	1	0	9	22	33

UTAH

All fields	1	0	0	1	2	26	28
September	0	0	0	0	2	25	27
Difference.	1	0	0	1	0	1	1

NEW MEXICO

All fields	5	565	2	0	2	25	27
September	0	0	0	0	3	23	26
Difference.	5	565	2	0	1	2	1

CENTRAL OHIO

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Ashland	5	0	0	3	0	11	11
Medina	5	0	3	2	4	11	15
Lorain	2	0	0	2	1	2	3
Wayne	7	0	4	3	3	19	22
Richland	0	0	0	0	0	2	2
Hocking	3	0	2	1	1	3	4
Vinton	0	0	0	0	0	1	1
Holmes	7	110	0	5	7	18	25
Coshocton	1	0	0	1	1	2	3
Jackson	2	0	0	2	3	5	8
Athens	13	0	5	8	2	4	6
Meigs	0	0	0	0	2	1	3
Cuyahoga	1	0	0	1	0	0	0
Summitt	0	0	0	0	0	1	1
Total Oct.	44	110	14	28	24	80	104
Total Sept.	55	151	16	31	40	96	136
Difference.	11	41	2	3	16	16	32

LIMA FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	17	154	0	1	3	13	16
Hancock	3	0	2	1	0	7	7
Allen	4	33	0	1	0	3	3
Auglaize	6	160	0	0	0	5	5
Sandusky	1	5	0	0	0	1	1
Mercer	13	154	2	0	0	9	9
Van Wert	2	25	0	0	0	5	5
Lucas	0	0	0	0	0	1	1
Ottawa	5	46	0	0	0	2	2
Darke	1	5	0	0	0	0	0
Shelby	1	35	0	0	0	6	6
Paulding	5	70	1	1	0	7	7
Hardin	4	50	1	1	0	1	1
Crawford	0	0	0	0	0	2	2
Michigan	0	0	0	0	0	2	2
Total Oct.	62	737	6	5	3	64	67
Total Sept.	46	658	4	1	9	62	72
Difference.	16	79	2	4	6	1	5

ILLINOIS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	8	137	3	0	0	4	4
Cumberland	0	0	0	0	0	2	2
Crawford	1	5	0	0	0	2	2
Lawrence	2	5	0	0	0	3	3
Marion	0	0	0	0	0	1	1
Wabash	9	400	6	0	5	7	12
Douglas	0	0	0	0	0	1	1
Coles	0	0	0	0	0	1	1
Union	0	0	0	0	0	1	1

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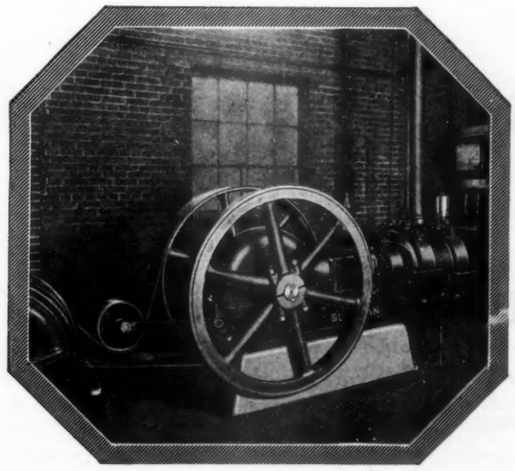

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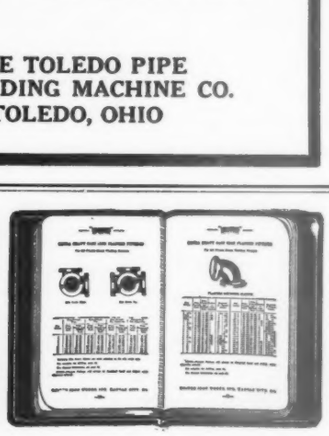

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Fayette	0	0	0	0	1	0	1
Madison	1	0	1	0	0	0	0
Jasper	0	0	0	0	0	1	1
Total Oct.	21	597	10	0	6	23	29
Total Sept.	21	588	6	0	5	27	32
Difference	0	9	4	0	1	4	3

NORTH CENTRAL TEXAS

Summary of Wells Completed

District—	Comp.	Prod.	Dry	Gas
Wichita	72	2,550	29	0
Eastland	12	565	6	1
Stephens	13	2,075	3	2
Young	6	25	5	0
Archer	79	5,930	24	0
Wildcats	34	2,645	18	3
Total October	216	13,790	85	6
Total September	137	11,475	42	10
Difference	79	2,315	43	4

Summary of New Work

District—	Rigs	Drg.	Ttl.
Wichita	5	33	38
Eastland	5	16	21
Stephens	9	38	47
Young	2	17	19
Archer	21	78	99
Wildcats	25	88	113
Total October	67	270	337
Total September	56	222	278
Difference	11	48	59

GULF COAST

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Batson	5	152	0	0	0	7	7
Blue Ridge	0	0	0	0	0	2	2
Big Creek	1	400	0	0	2	5	7
Damon Mound	1	0	1	0	0	1	1
Edgerly (La.)	1	200	0	0	0	1	1
Goose Creek	10	2,815	2	0	5	10	15
Hull	10	1,815	1	0	4	12	16
Jennings (La.)	4	175	3	0	1	3	4
Markham	0	0	0	0	0	3	3
Orange	8	4,320	2	0	4	12	16
Pierce Jct.	1	0	1	0	1	2	3
Spindletop	1	250	0	0	0	3	3
Saratoga	3	5	2	0	0	1	1
Sour Lake	7	145	0	0	0	3	3
Vinton (La.)	9	2,300	2	1	0	11	11
West Columbia	5	1,215	2	0	0	1	1
Lockport (La.)	0	0	0	0	2	2	4
Miscellaneous: (Gulf Coast)	2	0	2	0	7	14	21
Total Oct.	68	13,792	18	1	26	93	119
Total Sept.	79	22,617	37	0	22	117	139
Difference	11	8,825	19	1	4	24	20
Southwest Fields—							
Luling	7	3,250	2	0	3	22	25
Laredo	12	1,075	0	0	2	13	15
Somerset	0	0	0	0	0	5	5
Callihan	3	90	1	2	2	7	9
Rockdale-Minerva	4	100	0	0	3	8	11
Miscellaneous: S. W. Cos.	3	*750	2	0	86	328	414
Total Oct.	29	5,265	5	2	96	383	479
Total Sept.	34	6,295	3	6	109	391	500
Difference	5	1,030	2	4	13	8	21
Grand total for Oct.	97	19,057	23	3	122	476	598
Grand total for Sept.	113	28,912	40	6	131	508	639
Difference	16	9,855	17	3	9	32	41

KENTUCKY-TENNESSEE

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wayne	3	20	0	0	0	13	13
Powell	2	18	0	0	0	1	1
Estill	1	2	0	0	0	1	1
Wolfe	3	115	1	0	0	4	4
Lee	11	129	0	1	0	8	8
Lawrence-Johnson	24	868	0	0	0	19	19
Johnson-Magoffin	12	120	0	0	0	22	22
Allen	19	87	10	0	0	20	20
Warren	13	202	3	0	3	25	28
Barren	27	152	3	2	0	26	26
Owensboro	9	52	2	0	0	12	12
Cumberland	7	261	3	0	0	12	12
Monroe	3	0	3	0	0	0	0
Russell	7	37	2	0	0	4	4
Adair	0	0	0	0	0	1	1
Franklin	1	6	0	0	1	1	2
Edmondson	1	0	1	0	0	0	0
Metcalf	2	50	1	0	0	4	4
Tylor	1	0	1	0	0	0	0
Owsley	1	4	0	0	0	3	3
Breathitt	0	0	0	0	0	1	1
Rowan	0	0	0	0	0	5	5
Laurel	0	0	0	0	0	2	2
Pike	0	0	0	0	0	1	1
Harlan	0	0	0	0	1	0	1
Elliott	1	0	1	0	0	5	5
Bell	0	0	0	0	0	1	1
Madison	0	0	0	0	0	1	1
Menifee	2	0	2	0	0	0	0
Floyd	1	0	1	0	1	3	4
Fleming	0	0	0	0	0	2	2
Green	1	0	1	0	0	0	0
Logan	0	0	0	0	0	3	3
Martin	4	0	0	4	0	1	1
Kentucky	156	2,123	35	7	6	201	207
Tennessee	0	0	0	0	3	17	20
Mississippi	0	0	0	0	6	20	26
Alabama	0	0	0	0	0	11	11
Georgia	0	0	0	0	1	4	5
Total Oct.	156	2,123	35	7	16	253	269
Total Sept.	122	1,298	20	2	21	238	259
Difference	34	825	15	5	5	15	10

INDIANA

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wells	0	0	0	0	0	1	1
Jay	1	80	0	0	0	4	4
Adams	0	0	0	0	0	1	1
Grant	0	0	0	0	0	2	2
Delaware	0	0	0	0	1	0	1
Gibson	2	78	0	0	0	6	6
Pike	1	12	0	0	0	2	2
Sullivan	3	20	1	1	0	0	0
Knox	1	0	1	0	0	0	0

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Harrison	0	0	0	0	0	1	1
Laporte	1	0	1	0	0	0	0
Hendricks	0	0	0	0	0	1	1
Total Oct. ..	9	190	3	1	1	18	19
Total Sept. .	11	137	4	1	1	22	23
Difference ..	2	53	1	0	0	4	4

Devil's Den Drilling Attracting Attention To California Area

By E. Huguenin
Deputy Supervisor, District No. 4
California

LOS ANGELES, Cal., Oct. 31.—The Devil's Den area lies approximately 50 miles northwest of Taft and 35 miles south of Coalinga on the extreme southeastern extremity of the Diablo Range, a spur of the Coast Range Mountains, extending southeastward into the San Joaquin Valley. The prospective district covers an area of about 20 square miles, including several sections in Township 25 south, Range 18 east and the western portion of Township 25 south, Range 19 east, M. D. B. & M.

The limits of possible production are determined on the west of the massive Cretaceous sediments and on the remaining sides by the depths at which the outcropping of Tertiary rocks may be encountered as they plunge under the valley alluvium. The Cretaceous sediments, which cover practically all of Township 25 south, Range 17 east, are unproductive in this State, with the single exception of the Oil City Field at Coalinga which derives its production from the upper Cretaceous beds.

The only productive area thus far developed is the shallow field of about 50 acres in the northwest quarter of Section 25 and the northeast quarter of Section 26, Township 25 south, Range 18 east, now operated by the Vandruff Petroleum Co. The district derives its name from the cavernous and massive rock outcrops at the contact of the Tejon and Cretaceous formations in Section 29-25-18. Wildcatting has been almost continuous since the first wells were drilled in 1901. The first prospectors were attracted to the region by the oil seepages and tar springs common to the district. Several holes were drilled in the Cretaceous formations to the west, but no oil was obtained. In practically all of the wells drilled in formations stratigraphically higher than the Tejon, however, small quantities of oil, varying in gravity, were discovered. It is undoubtedly due to this fact that wildcat drilling continues today, despite the comparatively insignificant amount of oil produced. Most of the holes drilled in this area have been put down with portable outfits, the average depth being about 1,000 feet.

Early Drilling

On the Marathon well, drilling was begun in 1907 and suspended shortly afterwards until early in 1910. After another short period of work, operations were again suspended and work resumed several years later. The Devils Den Consolidated Oil Co., one of the first operators in this region, drilled several wells in Section 22-25-18 in 1910 and 1911. Its No. 1 is reported to have produced 5 to 10 bbls. per day of heavy oil from a depth of less than 1,000 feet. As this small production was not commercially profitable at that time, the well was deepened to 1,420 feet, where a high grade oil was discovered. In connection with the history of this well it is interesting to note that during the years the well stood idle ranchers in the vicinity bailed a quantity of oil from the well which they used for fuel. The well stood idle until recently when it was acquired by Louis Lucier, who plans to redrill and test the productiveness of the light oil found in the lower portion of the hole.

The first shallow production was obtained by T. H. Hannah, in the vicinity of the NW of Section 25-25-18 (now leased to Vandruff Petroleum, Inc.). In 1920 and 1921, when the price of oil rose, interest was revived in this shallow field, and a number of additional wells were drilled by the California Marine Oil & Refining Co. There are at present 56 wells in this field capable of small production. The geology of this district was first briefly described by Arnold & Johnson and later by English.

In view of the amount of drilling that has been done since, it may be of interest to give some further detail. The area is characterized by the occurrence of two well-known series of oil-bearing shales, Oligocene shale, the source of oil at Coalinga, and the Maricopa shales, the source of oil in the Midway-Sunset fields. The topography of this region has been largely influenced by the geology. It presents on the west a rugged group of hills formed by the folding and faulting of the weather resistant Cretaceous and Eocene sandstones. Immediately to the east the region is largely covered by softer sandstones and shales of the Oligocene and Monterey groups. These beds also have been folded and faulted and so subjected to erosion that an area of low relief resulted.

Further eastward the resistant beds of Maricopa shale have formed a low group of conical shaped hills, known as the Pyramid Hills, extending from northwest to southeast through Sections 10, 11, 14, 23 and 24, Township 25 south, Range 18 east. A prominent feature is the hard Vaqueros sandstone reef extending through the central part of the area from west to east and then south, disappearing under the valley alluvium in Section 25, and again outcropping in the extreme southeastern portion of the district, on Wagon Wheel Mountain. This reef is easily traced by the characteristic steep ridges which follow along its strike. The intense folding and faulting to which this region has been subjected has resulted in the anticline of the Pyramid Hills, the main structural feature of the district, and several minor anticlines, all of which are more or less faulted. The Pyramid Hills anticline extends southeast for approximately 2 miles from the eastern part of Section 10-25-18, through

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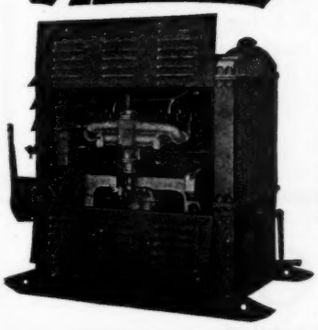

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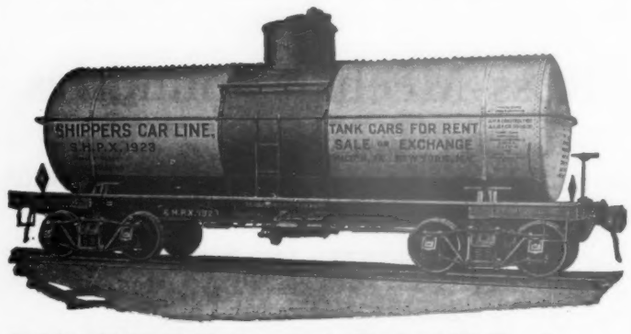

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the center of Section 14-25-18. To the west of the main anticline are several smaller anticlines running nearly parallel to the axis of the Pyramid Hills anticline. In the central and southern portion of the district the strike of the formations follows the Vaqueros reef, presenting a broad monocline dipping northeastward. The Vaqueros reef has been faulted in several places, and it is along these fault fractures that the oil seepages occur. All of the wells drilled within the area either have been started in the valley alluvium close to the base of the hills or have been drilled on monoclines. The Pyramid Hills anticline has never been tested. This is probably due to the fact that the Maricopa shale, though a source of oil, is not believed to contain sandy beds favorable for the accumulation of oil in this region. As previously stated, small quantities of oil have been discovered in the Oligocene and all younger formations within the area. All the oil now produced is obtained from shallow wells, either drilled in the Oligocene shales or the alluvial deposits overlying them. There are at present 30 producing wells averaging less than 2 bbls. of oil per day each, ranging in gravity from 11.4 to 15.7 degrees Baume.

Ichthyol Found?

Attention has recently been directed to this area by the statement that ichthyol is contained in this oil. Ichthyol is a peculiar form of asphaltic material employed in pharmaceutical practice as a medicant and antiseptic. The ichthyol made at the laboratory of Vandruff Petroleum, Inc., is probably synthetically derived. Samples of crude oil analyzed by one of the large producing companies failed to show presence of this product. A sample has been recently sent to the Bartlesville station of the United States Bureau of Mines for analysis, but the returns have not yet been received. Seepages of heavy oil are found in fractures in the Vaqueros bed, which varies in thickness from 80 to 100 feet. Several wells drilled near its outcrop, in Sections 22 and 25, Township 25 south, Range 18 east, obtained small quantities of this tarry oil. Some heavy oil has also been found in a number of wells drilled into the Maricopa shale, but not in commercial amounts.

Drilling operations throughout the district have been entirely with cable tools. All the shallow wells were drilled with small portable water-well outfits, and as there is no top water here many of them have no casing or but 10 to 20 feet of conductor. The wells now producing are pumped usually from open holes by a central jack plant operated by a gas engine. Vandruff Petroleum, Inc., has recently built a cracking plant having a capacity of 100 bbls. daily, where the oil is raised from an average gravity of 12.9 degrees to 14 degrees Baume. The oil is hauled in a tank wagon to the Associated Oil Co.'s pipe line a few miles distant.

A refinery is now in course of construction at this property where it is expected to produce principally lubricating oil, which constitutes a large percentage of the crude. With the exception of the Pyramid Hills anticline, the district has been well tested, as indicated by the number of wells drilled, and holds little promise of any large production. The limits of the shallow productive area now being developed in Sections 25 and 26 have been fairly well determined by dry holes drilled about its edges.

LAMBERT LALEY DIES

Lambert Laley of Bradford, Pa., who for the past 18 years resided in Tampico, Mexico, where he was in the employ of the Huasteca Petroleum Co., died in New York in the Roosevelt Hospital following a surgical operation.

OIL VETERAN DIES

Samuel C. Mallon of Franklin, Pa., for 40 years engaged in the oil fields, died suddenly at Bradford, Pa., aged 65 years.

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Mexican Shipments Show Slump, Partly Because of Strikes

By George Blardone

TAMPICO, Mexico, Oct. 31.—Shipments of petroleum from Mexican ports of primary clearance during the month of September totaled 9,164,805 bbls., a decrease from a similar movement in September, 1923, of 2,046,222 bbls. The movement in August of the current year was 9,998,692 bbls. Strike disturbances at loading terminals, however, are partially responsible for lower figures for both of the last two months.

In the movement last month Tampico dispatched 8,031,298 bbls.; Tuxpam, 798,287 bbls., while Port Lobos cleared 335,220. By classes the oils dispatched were: Crudes, 5,367,377 bbls.; topped crudes, 3,097,778; distillates, 281,126, while bunker oils totaling 418,524 bbls. is added to balance.

The movement in detail follows:

FROM TAMPICO

By Huasteca Petroleum Co.
(Mexican Petroleum)

Sep.	Rig.	Vessel and destination—	Bbls.
9	Ss.	Harold Walker, New Orl'ns	64,578
9	Ss.	G. G. Henry, New Orleans	60,002
9	Ss.	Panoil, Miami	*9,990
12	Ss.	G. W. Barnes, New Orleans	57,041
15	Ss.	Harold Walker, New Orl'ns	61,836
15	Ss.	Wm. H. Doheny, Mont. and Beunos Aires	*59,209
16	Ss.	Mendocino, New York	*61,206
16	Ss.	Mirlo, Boston	*56,362
17	Ss.	Norman Bridge, Galveston	*41,159
17	Ss.	H. G. Wylie, Galveston	*40,158
18	Ss.	Mantilla, Portland	*48,556
18	Ss.	Mora, Providence	*67,552
19	Ss.	C. A. Canfield, Galveston	*46,350
19	Ss.	Elisha Walker, Galveston	*49,996
21	Ss.	G. W. Barnes, Panama	*60,593
21	Ss.	I. C. White, New York	*63,174
21	Ss.	J. O. Boyd, New Orleans	†18,751
21	Ss.	W. L. Steed, New Orleans	†48,500
23	Ss.	G. G. Henry, Providence	*64,280
23	Ss.	Dean Emory, Galveston	*68,936
24	Ss.	Fueloil, Miami	*13,921
24	Ss.	Inverleith, Southampton	*55,175
25	Ss.	Fred Ewing, Galveston	*53,644
25	Ss.	S. M. Spalding, Boston	*63,889
25	Ss.	F. K. Lane, New York	*60,325
26	Ss.	J. M. Danziger, Boston	*67,249
26	Ss.	Harold Walker, New York	*64,744
27	Ss.	Norman Bridge, Jacksonville	*40,678
28	Ss.	E. Walker, Santos	*63,037
29	Ss.	Panoil, Houston	*14,689
29	Ss.	Cero Azul, New York	*67,378
30	Ss.	Wm. Green, Philadelphia	52,496
30	Ss.	C. A. Canfield, Galveston	*54,299
30	Ss.	E. L. Doheny, New York	*49,521
		Bunker deliveries	103,592
		Total	1,871,865

By Transcontinental Petroleum Co.

Sep.	Rig.	Vessel and destination—	Bbls.
1	Ss.	L. J. Drake, Baton Rouge	58,722
1	Ss.	Pioneer, Tampa	48,094
2	Ss.	Oina, Providence	58,341
3	Ss.	Princeton, Baytown	48,951
4	Ss.	Niobe, Baltimore	67,300
4	Ss.	Miskianza, Baltimore	60,150
6	Ss.	Derbyline, Port Neches	62,961
6	Ss.	Swiftwind, Texas City	70,287
7	Ss.	Hugoton, Baltimore	62,146
9	Ss.	Baytown, Baytown	24,491
10	Ss.	Americano, Italy	*54,054
11	Ss.	Pioneer, Key West	46,801
12	Ss.	Aztec, Fall River	48,750
12	Ss.	T. H. Wheeler, New York	54,256
13	Ss.	Corning, New York	46,118
14	Ss.	Derbyline, Port Arthur	62,714
14	Ss.	F-Sulphur 6, Charleston	38,443
15	Ss.	Baytown, Baytown	23,822
15	Ss.	S. B. Hunt, Baytown	62,301
16	Ss.	Camden, Baytown	58,623
16	Ss.	F-Sulphur 1, Romana, D.R.	15,340
18	Ss.	Princeton, Jacksonville	46,355
22	Ss.	Baytown, Baytown	17,249
23	Ss.	Niobe, Baltimore	41,470
23	Ss.	Oina, Baltimore	33,269
23	Ss.	Ardmore, Baton Rouge	35,641
23	Ss.	Baton Rouge, Key West	36,241
24	Ss.	Somerset, Tampa	41,244
25	Ss.	Trontolite, New York	47,629
25	Ss.	M. F. Elliott, Baton Rouge	30,178
30	Ss.	Baytown, Baytown	22,344
30	Ss.	G. H. Jones, Baton Rouge	52,839
30	Ss.	Hugoton, Baltimore	50,458
		Bunker deliveries	62,130
		Total	1,589,733

By Mexican Sinclair Petroleum Corp.

Sep.	Rig.	Vessel and destination—	Bbls.
2	Ss.	S. L. Fuller, Fall River	62,454
3	Ss.	J. Fletcher Farrell, Texas City	63,081
4	Ss.	A. E. Watts, Cuba	64,982
5	Ss.	Melona, Europe	45,006
6	Ss.	J. M. Cudahy, New Orleans	65,486
6	Ss.	Gene Crawley, Houston	30,046
8	Ss.	Agwiworld, Philadelphia	64,337
8	Ss.	W. L. Connelly, Pt. Barrois, C. A.	32,271
9	Ss.	E. W. Sinclair, New Orleans	43,868
9	Ss.	J. F. Farrell, New Orleans	62,419
10	Ss.	Cedarhurst, Philadelphia	42,095
11	Ss.	Mirita, Cuba	55,267
12	Ss.	Scot. American, Houston	59,898
14	Ss.	Harry Farnum, Cuba	30,249
14	Ss.	Madrono, Tiverton	55,479
17	Ss.	A. E. Watts, Cuba	64,288
17	Ss.	Gene Crawley, New Orleans	30,642
18	Ss.	J. F. Farrell, Texas City	45,697
22	Ss.	S. L. Fuller, New Orleans	39,899
23	Ss.	E. V. R. Thayer, Fall River	70,808
23	Ss.	Vaba, Philadelphia	25,297
26	Ss.	J. F. Farrell, New Orleans	70,117
27	Ss.	A. E. Watts, Cuba	69,951
27	Ss.	Gene Crawley, Pt. Barrois, C. A.	30,244

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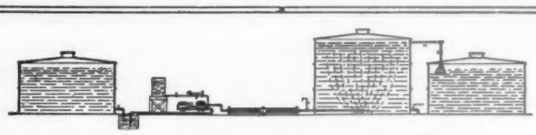

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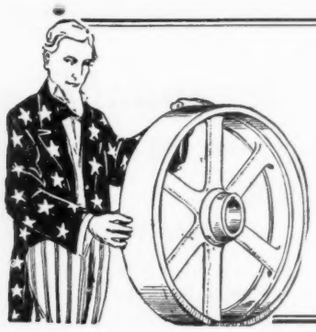

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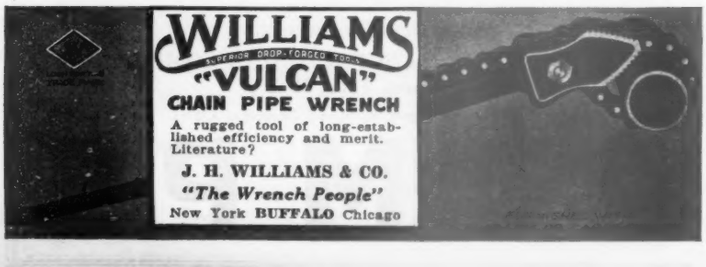

28	Ss.	Mirita, Cuba	54,967
30	Ss.	J. M. Cudahy, New Orleans	70,134
		Bunker deliveries	1,571
		Total	1,350,651

By Mexican Eagle Oil Co., Ltd.

Sep.	Rig.	Vessel and destination—	Bbls
8	Ss.	Marinula, Lizard f/o	*44,588
9	Ss.	San Salvador, Buenos Aires	*55,615
12	Ss.	San Zeferino, Montreal	*52,917
13	Ss.	San Patricio, Buenos Aires y La Plata	*72,010
13	Ss.	San Eduardo, New York	*52,316
14	Ss.	Chiton, Panama	*48,022
15	Ss.	Ansaldo III, Havre	*41,931
17	Ss.	San Fernando, Devonport.	*88,369
18	Ss.	San Jeronimo, South Am.	*67,876
21	Ss.	Lampas, Quebec	*27,233
22	Ss.	Corbis, Lisboa	*33,182
23	Ss.	Cardium, Hamburg	*29,090
25	Ss.	San Tirso, Lizard f/o	*40,579
25	Ss.	Ryysdael, South America.	†22,435
26	Ss.	San Leonardo, Havana	*42,468
28	Ss.	San Nazaria, Buenos Aires y Santo	*72,945
		Coastwise	*72,495
		Coastwise	†17,944
		Coastwise	86,957
		Bunker deliveries	68,200
		Total	1,037,252

By Cia. Mexicana-Holandesa La Corona, S.A.
(Royal Dutch-Shell)

Sep.	Rig.	Vessel and destination—	Bbls.
1	Ss.	Beiridge, New York	*59,882
4	Ss.	Malmanger, New Orleans	61,997
5	Ss.	Beacon Light, Boston	62,597
6	Ss.	Conde Churruca, Continent	*40,442
10	Ss.	Acasta, Holland	*46,345
11	Ss.	Solana, New Orleans	59,662
13	Ss.	Malmanger, London	*57,697
20	Ss.	Scot. Maiden, Bayonne	29,761
21	Ss.	Scot Minstrel, London	*31,081
21	Ss.	Scot. Standard, Baltimore.	32,226
23	Ss.	Beiridge, New York	*36,442
23	Ss.	Topila, Boston	36,539
25	Ss.	Anomia, Holland	*37,056
27	Ss.	Strombus, U. S. A.	35,973
27	Ss.	Scot. American, New Orleans	48,920
		Coastwise	187,040
		Bunker deliveries	72,961
		Total	936,621

By Mexican Gulf Oil Co.

Sep.	Rig.	Vessel and destination—	Bbls.
3	Ss.	Winifred, Port Arthur	20,206
4	Ss.	Trinidadian, Port Arthur	24,721
6	Ss.	Gulftrade, Galveston	65,150
7	Ss.	Gulfpoint, Port Arthur	61,924
9	Ss.	Ligonier, Galveston	29,968
17	Ss.	Gulfoil, Port Arthur	48,233
17	Ss.	Gulftrade, New Orleans	65,318
21	Ss.	J. M. Guffey, Port Arthur	19,591
23	Ss.	Gulftrade, Port Arthur	47,274
24	Ss.	Gulfstar, Port Arthur	42,556
24	Ss.	Gulfstate, Galveston	36,643
27	Ss.	Ligonier, Tampa	29,811
		Bunker deliveries	17,163
		Total	508,558

By The Texas Co.

Sep.	Rig.	Vessel and destination—	Bbls.
7	Ss.	Louisiana, Matanzas	26,107
12	Ss.	Dungannon, Marcus Hook	*61,564
18	Ss.	Louisiana, Port Arthur	11,320
18	Ss.	Louisiana, Port Arthur	†16,626
25	Ss.	Texas, Port Arthur	45,078
26	Ss.	Louisiana, Port Neches	24,560
		Bunker deliveries	5,383
		Total	190,638

By East Coast Oil Co.

Sep.	Rig.	Vessel and destination—	Bbls.
7	Ss.	F-Sulphur 6, Freeport	27,708
7	Ss.	F-Sulphur 1, Freeport	15,966
10	Ss.	Tamiahua, Galveston	84,032
		Bunker deliveries	7,349
		Total	135,055

By Mexican Atlas Oil Corp.

Sep.	Rig.	Vessel and destination—	Bbls.
4	Ss.	Sucrosa, New York	48,621
25	Ss.	Wm. Isom, Baltimore	28,170
26	Ss.	Golaa, New York	43,697
		Bunker deliveries	5,611
		Total	126,099

By Empire Gas & Fuel Co.

Sep.	Rig.	Vessel and destination—	Bbls.
2	Ss.	Mary Luckembach, Fall River	50,285
9	Ss.	Lampas, New Orleans	44,615
26	Ss.	F-Sulphur 6, Freeport	27,586
		Total	122,486

By New England Fuel Oil Co.

Sep.	Rig.	Vessel and destination—	Bbls.
15	Ss.	Chuky, Tocopilla	57,660
		Bunker deliveries	5,954
		Total	63,614

By Panuco Boston Oil Co.

Sep.	Rig.	Vessel and destination—	Bbls.
18	Ss.	Dora, Philadelphia	46,807
		Bunker deliveries	7,873
		Total	54,680

By International Petroleum Co.

Sep.	Rig.	Vessel and destination—	Bbls.
12	Ss.	J. M. Guffey, Port Arthur.	23,569

By Pierce Oil Corp.

Sep.	Rig.	Vessel and destination—	Bbls.
21	Ss.	Appalachee, U. S. A.	*16,975
		Bunker deliveries	3,500
		Total	20,475

FROM PORT LOBOS

By Transcontinental Petroleum Co.

Sep.	Rig.	Vessel and destination—	Bbls.
22	Ss.	S. B. Hunt, New York	35,535
23	Ss.	Olna, Baltimore	28,774
24	Ss	Ardmore, Baton. Rouge	37,033
24	Ss.	Niobe, Baltimore	28,534
26	Ss.	M. F. Elliott, Baton Rouge	41,003
26	Ss.	Trontolite, New York	19,837
		Total	190,716

By Island Oil & Transport Corp.

Sep.	Rig.	Vessel and destination—	Bbls.
5	Ss.	Matinicock, Baltimore	73,555
21	Ss.	Halsey, Baltimore	70,949
		Total	144,504

FROM TUXPAM

By Huasteca Petroleum Co.
(Loaded out by Mexican Eagle Oil Co., Ltd.)

Sept.	Rig.	Vessel and destination—	Bbls.
1	Ss.	S. M. Spalding, Boston	*67,361
1	Ss.	Fred. Ewing, New York	*65,520
8	Ss.	Mirlo, New Orleans	*79,435

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10	Ss.	I. C. White, New Orleans..	*77,435
12	Ss.	E. L. Doheny, New Orleans	62,708
13	Ss.	G. G. Henry, New Orleans.	71,893
		Bunker deliveries	7,622
		Total	431,974

By Mexican Eagle Oil Co., Ltd.

Sept.	Rig.	Vessel and destination—	Bbls.
9	Ss.	Marinula, Land's End f/o.	*10,868
13	Ss.	San Melito, Portsmouth...	*106,604
15	Ss.	San Patricio, La Plata	*22,410
18	Ss.	San Fernando, Devonport..	*20,352
19	Ss.	San Jeronimo, Montevideo.	*30,577
23	Ss.	Scot. Minstrel, Land's End f/o	*27,866
24	Ss.	Lampas, New York	*21,273
25	Ss.	Corbis, Lisboa	*17,385
25	Ss.	Cardium, Hamburg	*19,239
		Bunker deliveries	49,615
		Total	326,189

By Penn Mex Fuel Co.

September Coastwise deliveries.....	40,124

SUMMARY, SEPTEMBER

From—	Bbls.
Tampico	8,031,298
Tuxpam	798,287
Port Lobos	335,220
Total Sept., 1924	9,164,805
Total Sept., 1923	11,211,027
Decrease Sept., 1924	2,046,222

DIVISION OF MOVEMENT

To—	
United States	6,296,059
South America	523,814
United Kingdom	483,179
Cuba and West Indies	423,619
Coastwise	404,560
Continent	363,730
Panama	108,615
Canada	80,190
Central America	62,515
Bunkers (to balance)	418,524
Total	9,164,805

*Denotes topped crudes.
†Denotes distillates.

CALIFORNIANS WOULD DOUBLE GASOLINE TAX

It is reported that the movement which is under way to increase the California gasoline tax when the 1925 State Legislature meets received additional backing when at a meeting of the Boards of Supervisors of Modoc, Shasta, Siskiyou, Trinity and Lassen Counties, a plan was advocated to increase the current tax of 2 cents per gallon to 4 cents per gallon. The present revenues from the gasoline tax are divided between the State Highway Commission and the several county governments for use in repairing and maintaining highways. The resolutions passed at the session of the officials of the northern counties urge that the proposed 2-cent increase in tax be made available for new construction work on hgihways. This suggestion was interpreted by State officials as being in harmony with the opposition in many parts of California to issue bonds in order to raise sufficient funds to pay for primary road building in the future.

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Classified Wants
Pages 98-99
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STANDARD OIL OF N. J. SELLS MORE TANKERS

NEW YORK, Nov. 1.—The Standard Oil Co. of New Jersey has sold four tank steamers in addition to the four recently sold to C. D. Mallory & Co. They are the "Corning," the "Chinampa," the "De-Soto" and the "Baton Rouge." The purchaser is Frank W. Seth, 11 Broadway, New York City.

It is understood that some of the vessels have been resold by Mr. Seth to a foreign purchaser and that their names will be changed and they will be placed under foreign registry.

It is expected that the Standard Oil Co. will charter the vessels it recently sold to C. D. Mallory & Co. for a short period.

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Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS PIPE LINE REPORT FOR AUGUST

Runs

	Month	Dy. Av.
*Prairie P. L. Co.	4,057,900	130,900
Gulf P. L. Co.	1,313,700	42,378
Texas P. L. Co.	365,910	11,802
Magnolia Pet. Co.	1,220,434	39,369
Empire P. L. Co.	855,506	27,597
Cosden P. L. Co.	879,320	28,365
*Sinclair P. L. Co.	1,347,043	43,453
*Other lines	8,742,000	282,000
Total	18,781,813	605,865
Total	17,394,174	561,103
Difference	1,387,639	44,762

Shipments

†Prairie P. L. Co.	3,353,251	108,169
Gulf P. L. Co.	1,101,896	35,545
Texas P. L. Co.	626,508	20,210
Magnolia Pet. Co.	726,892	23,448
Empire P. L. Co.	768,763	24,799
Cosden P. L. Co.	848,481	27,370
†Sinclair P. L. Co.	1,777,529	57,340
Other lines	8,370,000	270,000
Total	17,573,320	566,881
Total	17,101,885	551,674
Difference	471,435	15,207

Stocks

*Prairie Oil & Gas Co.	34,900,000
*Prairie Pipe Line Co.	2,000,000
Gulf Pipe Line Co. & Gypsy Oil Co.	9,686,289
The Texas Co.	6,896,397
Magnolia Pet. Co.	8,981,748
Empire Pipe Line Co.	3,429,260
Cosden Pipe Line Co.	3,012,531
*Sinclair Crude Oil Purchasing Co.	29,550,000
Carter Oil Co.	18,067,846
*Other lines	10,150,000
Total	116,674,160
Total	113,260,350
Difference	3,413,810

*Estimated. †Includes shipments of Texas crude.

Note: Stocks do not include approximately 8,800,000 bbls. of crude oil held in storage on priate tank farms and leases.

Runs from Wells

In the following table will be found the regular receipts from wells by arious pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for August and September.

	Aug., '24	Sept., '24
Nat. Transit	181,414.09	182,088.41
S. W. Pa. P. L.	81,053.49	78,895.56
Eureka P. L.	345,884.02	351,485.53
Buckeye P. L. (Macksburg)	260,181.20	266,724.36
Buckeye P. L. (Cleveland)	13,813.10	14,345.30
Buckeye P. L. (Lima, etc.)	133,212.27	137,043.37
Indiana P. L.	12,415.93	13,098.14
Cumberland P. L.	333,217.34	343,759.29
N. Y. Transit	18,749.61	17,950.12
Tidewater P. L.	145,298.64	148,166.41
Pure Oil P. L.	186,362.59	189,939.55
Emery P. L.	37,151.95	39,983.11
Indian Ref.	60,022.97	58,273.83
Paragon Dev.	41,247.90	39,270.91
Pittsburgh P. L.	8,191.73	6,874.72
Total	1,858,216.83	1,887,898.71
Daily average	59,942.48	62,929.96

Note—Indian Refining Co. also reported other receipts of 325,551.33 bbls. Paragon Refining Co. had other receipts of 90,884.01 bbls. Paragon Deelopment Co. had other receipts of 4,615.28 bbls. Pittsburgh Pipe Line had other receipts of 2,763.37 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for August and September.

	Aug., '24	Sept., '24
Nat. Transit	271,259.10	326,398.90
S. W. Pa. P. L.	351,743.43	314,934.21
Eureka P. L.	213,589.82	164,748.30
Buckeye P. L. (Macksburg)	204,639.98	88,058.06
Buckeye P. L. (Cleveland)	975.11	1,214.61
Buckeye P. L. (Lima, etc.)	652,140.37	532,150.99
Indiana P. L.	775,599.64	750,599.95
Cumberland P. L.	178,694.99	132,618.69
Southern P. L.		
Crescent P. L.	5,925.24	
N. Y. Transit	354,470.00	437,766.87
Northern P. L.	102,861.64	125,166.94
Tidewater P. L.	83,514.81	125,057.78
Pure Oil P. L.	189,388.30	229,439.68
Emery P. L.	44,128.24	41,884.28
Paragon Ref.	96,765.40	68,348.08
Indian Ref.	356,300.95	433,576.20
Paragon Dev.	23,117.96	36,936.44
Pittsburgh P. L.	11,702.31	10,978.98
Total	3,816,717.09	3,819,750.86
Daily average	123,119.90	127,325.03

Gross Stocks

The gross stocks held by various pipe lines in the oil producing section of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of August and September were as follows:

	Aug., '24	Sept., '24
Nat. Transit	868,774.55	961,508.69
S. W. Pa. P. L.	704,080.51	724,341.53
Eureka P. L.	1,724,768.60	1,697,079.59
Buckeye P. L. (Macksburg)	307,678.96	352,911.42
Buckeye P. L. (Cleveland)	41,396.68	46,294.83
Buckeye P. L.		
Indiana P. L.	639,240.14	679,016.62
Cumberland P. L.	609,383.44	605,423.66
Southern P. L.	606,326.30	630,608.67
Crescent P. L.	58,570.05	58,433.71
N. Y. Transit	934,491.17	768,797.71
Northern P. L.	731,182.89	914,613.78
Tidewater P. L.		
Pure Oil P. L.	372,139.83	328,576.77
Emery P. L.	6,883.96	6,003.80
Paragon Ref.	163,900.12	79,035.93
Indiana Ref.	188,296.83	168,875.27
Paragon Dev.	12,195.03	10,287.89
Pittsburgh P. L.	5,137.24	4,047.30
Total	12,221,675.55	12,206,885.87
Increase	159,314.23	
Decrease		14,939.68

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern pipe lines at the close of August and September, showing the gross stocks of the above fields:

	Aug., '24	Sept., '24
Pennsylvania	3,501,870.36	3,707,179.82
Lima	1,255,030.74	1,317,819.86
Kentucky	1,471,375.42	1,522,433.32
Mid-Continent	5,866,141.67	5,592,672.05
Illinois	127,757.36	66,730.82
Total	12,221,675.55	12,206,885.87
(Lima, etc.)	4,247,229.25	4,175,978.70

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1921	1922	1923	1924
January	64,460	67,702	75,790	62,632
February	70,054	75,096	72,093	68,023
March	68,555	78,521	76,592	68,721
April	65,036	76,462	75,614	71,058
May	65,466	77,592	77,365	63,942
June	62,438	76,193	77,593	68,230
July	59,486	76,435	71,879	64,208
August	64,888	79,387	76,910	59,942
September	60,110	78,512	72,358	62,930
October	57,688	77,209	76,256	
November	58,470	75,313	70,762	
December	61,000	73,351	60,271	

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for past four years:

	1921	1922	1923	1924
January	115,550	119,792	171,067	145,512
February	96,736	111,362	164,219	148,732
March	84,168	127,753	185,487	147,093
April	101,016	127,068	170,761	147,611
May	100,253	127,840	177,102	134,997
June	105,037	137,638	173,598	143,010
July	97,096	137,872	168,330	124,187
August	101,652	153,275	142,766	123,120
September	117,440	158,761	157,266	127,325
October	105,728	166,345	134,597	
November	121,803	165,677	131,426	
December	104,023	172,861	129,909	

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields including oil received from other lines at the close of each month for the past three years:

	1922	1923	1924
January	16,297,853	14,040,567	13,997,20
February	17,009,203	14,028,437	13,844,30
March	16,877,937	13,873,146	13,996,73
April	16,777,842	13,737,575	13,923,74
May	16,948,962	13,816,622	13,333,30
June	16,810,169	14,541,253	13,344,20
July	16,660,286	14,645,584	12,962,30
August	16,235,229	14,770,539	12,221,67
September	16,228,545	14,802,444	12,206,88
October	15,757,746	14,504,111	
November	15,171,972	14,157,726	
December	14,328,765	13,444,361	

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

1923—	Receipts	Shipments	Stocks
August	3,199.07	3,769.34	83,871.06
September	2,829.79	5,823.38	19,881.47
October	2,694.23	5,251.81	17,324.19
November	2,980.66	4,150.98	16,154.47
December	2,893.07	3,499.37	15,548.17
1924—			
January	2,942.19	3,641.71	7,849.75
February	2,151.78	1,924.55	18,076.98
March	3,398.78	1,716.28	11,759.48
April	3,811.84	2,066.78	13,504.54
May	3,036.50	5,338.21	10,402.83
June	3,188.31	407.61	12,481.53
July	3,067.74	2,324.29	13,224.98
August	2,901.36	6.31	16,120.13

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, Oct. 1	2,221,314.22
Runs from wells	668,972.22
Other receipts	164,371.98
Regular deliveries	661,516.64
Other deliveries	343,033.32

The amount of Illinois oil run by the Tidewater Pipe Line Co. in September was 21,902.64 bbls., and deliveries were 34,330.70 bbls. Adding these figures to those of the Illinois Pipe Line Co., makes the runs and deliveries from the Illinois Field as follows:

1923—	Runs	Deliveries
September	542,561.59	366,033.48
October	576,867.09	347,312.32
November	546,859.43	285,032.90
December	534,185.04	362,542.41
1924—		
January	493,337.25	280,792.82
February	535,490.70	353,613.24
March	611,289.36	369,642.32
April	514,356.43	339,540.10
May	751,080.44	510,414.42
June	726,060.87	526,060.30
July	759,646.84	552,305.10
August	720,457.72	519,235.79
September	714,876.36	535,762.80

The Tidewater Pipe Co., Ltd., also delivered in September 118,940.60 bbls. of Oklahoma oil. The total deliveries of all grades by the Tidewater were 278,338.14 bbls.

AVERAGE WEEKLY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

Av. bbls. per wk.—	ATLANTIC PORTS						GULF COAST PORTS					Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Pt. Arthur Sabine Pass	Tampa	Total	
May	42,903	33,194	615,709	92,706	61,642	846,154	.....	70,127	.....	.....	70,127	916,281
June	121,800	34,300	581,000	103,369	51,331	891,800	.....	.....	.....	.....	.....	891,800
July	37,710	16,129	473,516	84,453	42,453	654,249	.....	16,936	.....	.....	.....	671,185
August	114,032	33,419	654,387	71,806	33,871	907,515	907,515	.....	6,774	.....	.....	914,289

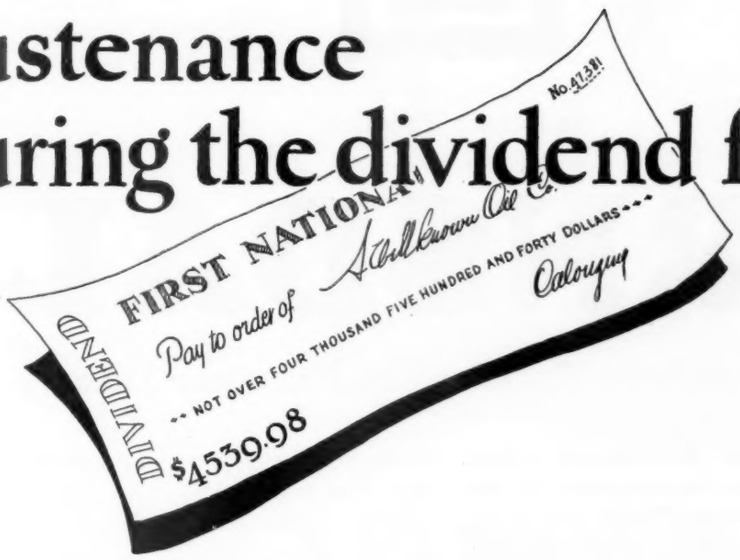
AVERAGE WEEKLY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Av. bbls. per wk.—	ATLANTIC PORTS						GULF COAST PORTS					Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Pt. Arthur Sabine Pass	Tampa	Total	
March	148,358	141,806	283,458	124,642	292,642	990,906	463,806	365,358	223,552	55,545	1,108,261	2,099,167
April	162,369	164,931	913,900	94,962	248,969	971,131	382,900	348,131	119,000	15,869	865,900	1,837,031
May	156,485	134,602	288,903	59,613	300,097	939,699	315,679	296,358	199,591	38,164	849,792	1,789,491
June	120,169	108,731	434,931	68,131	239,400	971,362	412,741	251,762	169,831	33,831	858,165	1,829,527
July	62,097	81,291	445,067	38,418	277,970	904,843	320,194	273,455	130,739	34,978	759,361	1,666,204
August	80,839	57,356	247,710	98,902	207,065	691,872	370,549	238,677	115,839	14,677	739,742	1,431,614

GROSS PRODUCTION AND DAILY AVERAGE IN THE UNITED STATES FOR 12 MONTHS

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Wyoming-Montana	Other Fields	Total
1923—										
September:	Month	25,762,487	12,812,220	12,879,682	2,234,730	3,164,900	1,787,430	4,661,550	3,269,551	68,471,554
	Daily average	858,750	427,074	429,323	74,491	105,497	59,581	155,385	108,985	2,282,517
October:	Month	24,576,400	12,961,782	15,933,383	2,336,346	3,120,274	1,837,990	3,540,880	3,476,913	67,783,968
	Daily average	792,787	418,122	513,980	75,366	100,654	59,290	114,222	112,126	2,186,837
November:	Month	22,397,848	12,334,620	15,556,507	2,268,840	2,973,000	1,816,860	4,792,466	3,138,464	65,278,606
	Daily average	746,595	411,154	518,550	75,628	99,100	60,562	159,782	104,615	2,175,353
December:	Month	21,899,247	12,232,259	10,065,856	2,345,150	4,017,850	1,919,574	5,304,326	3,147,812	60,932,074
	Daily average	706,427	394,589	324,705	75,650	129,608	61,922	106,591	101,542	1,961,694
1924—										
January:	Month	20,912,500	12,292,833	10,336,643	2,233,878	3,686,680	1,601,175	4,636,230	2,950,500	58,648,439
	Daily average	674,597	396,543	333,449	71,738	118,925	51,651	149,556	96,177	1,891,679
February:	Month	19,341,226	12,236,637	10,495,486	2,112,853	3,302,750	1,497,450	4,168,450	2,997,700	56,152,553
	Daily average	666,939	421,953	361,913	72,857	113,888	51,629	143,740	103,369	1,936,295
March:	Month	19,913,262	13,336,851	12,077,617	2,206,425	3,882,695	1,701,593	3,993,890	3,258,000	60,370,333
	Daily average	642,363	430,221	389,601	71,175	125,248	54,890	128,835	105,097	1,947,430
April:	Month	19,299,849	13,452,249	11,725,830	2,265,090	4,068,225	1,495,582	3,901,755	3,231,000	59,423,577
	Daily average	643,328	448,408	390,861	75,503	135,608	49,853	130,058	107,700	1,981,223
May:	Month	19,833,576	14,248,057	11,923,316	2,486,696	4,659,117	1,596,701	4,033,564	3,355,000	62,136,027
	Daily average	639,793	459,615	384,623	80,216	150,291	51,507	130,109	108,226	2,004,387
June:	Month	18,807,999	14,457,390	11,515,020	2,473,320	4,756,443	1,811,880	3,798,634	3,211,500	60,833,186
	Daily average	626,933	481,913	383,834	82,444	158,548	60,419	126,621	107,050	2,027,773
July:	Month	19,274,755	15,191,860	11,820,889	2,678,834	4,698,160	1,931,641	3,728,525	3,387,290	62,612,054
	Daily average	621,766	490,060	381,319	86,414	148,321	62,311	120,275	109,290	2,019,728
August:	Month	19,113,998	16,572,104	11,805,763	2,717,398	4,400,116	1,898,246	3,816,627	3,280,017	63,603,269
	Daily average	616,548	534,584	380,831	87,658	141,810	61,234	123,117	105,807	2,051,715
	Total 12 months	251,132,147	163,128,853	146,135,983	28,349,552	46,630,210	20,896,122	48,276,897	38,703,447	742,253,211
	Daily average	686,153	442,975	399,279	77,458	127,406	57,093	131,904	105,747	2,028,814

Sustenance during the dividend famine



WHEN dividends are scarce, it's time to make not only men, but capital work harder. The Vice President of a well known oil company found a way to do it. The result, in his own words:

"Calorized tubes pay big dividends—in our case 46% per year."

He figures the yearly profit due to Calorized tubes in two 1000-bbl. pressure stills as $4,539.98. The total consists of a 4% increase in production, a 5% reduction in fuel costs, a 400% increase in tube life, and a 75% reduction in time formerly lost during tube renewals.

Calorized tubes may accomplish even more in your pressure stills. Why not have our engineers study your conditions and submit a report? They will be glad indeed to do this for you without imposing the slightest obligation.

As a preliminary step, ask us to mail you the complete figures on this and other important installations.

The Calorizing Company

301 Oliver Building, Pittsburgh, Pa.

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Economize
Modernize
Calorize

289

The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy.

"Be Square Products"

BARNSDALL

Engaged in Every Branch of the Petroleum Industry

The BARNSDALL REFINING COMPANY is one of the subsidiaries of the BARNSDALL CORPORATION, which has assets of over Forty Million ($40,000,000) Dollars;

With twenty-seven thousand domestic gas customers in twenty-eight municipalities in the states of New York and Pennsylvania;

With approximately 300,000 acres of oil and gas leases extending from Pennsylvania to California—with only ninety thousand acres operated and developed, upon which there are twenty-six hundred oil wells producing more than seven thousand barrels of crude oil daily and six hundred twenty-five gas wells, and six hundred miles of pipe lines;

With a fully equipped, complete, modern refinery located at Barnsdall, Oklahoma, in the heart of the corporation's mid-continent production, with over one hundred miles of pipe line transporting the crude oil to the refinery, where it is manufactured into high grade, uniform quality products, including Lubricating Oils, Cylinder Stocks and Wax;

With twelve absorption gasoline plants to extract the natural gasoline from the casing head gas of the producing oil wells and a fleet of steel tank cars for shipping and transporting all of its refined oils to market;

With an export department constantly preparing shipments of Barnsdall Products for export to European countries and South America, through the ports of New Orleans and Mobile;

With a large warehouse and storage plant in Kansas City, Mo., with distributing stations well located in the agricultural country of Missouri and Kansas.

Our Own Crude
Our Own Refinery
Our Own Pipe Lines
Our Own Tank Cars

"A Dependable Source Supply"

Barnsdall Refining Company

910 South Michigan Ave., Chicago, U. S. A.

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Foreign Offices:
Paris Buenos Aires
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Use It With Air or Hand Pump or Both

1 Columbian Underground Storage Tank of high grade steel, expertly welded and having a substantial factor of safety over and above that required by the Underwriter's specifications.

2 Auxiliary pressure tank with a factor of safety beyond that of the ordinary filling station air tank. Also expertly welded and tied to bottom of storage tank.

3 Dished heads—standard construction on Columbian underground storage tanks—a factor which gives them strength not common to underground tanks of even heavier steel. Auxiliary pressure tank also has dished heads.

4 Two and one-half inch fill pipe, 36 inches long.

5 Four-inch pipe, 36 inches long, through which inlet valve to pressure tank may be removed for cleaning.

6 Feed line which conducts gasoline from pressure tank to tower container. Ends 1 inch above bottom of tank to prevent picking up bottom settlings.

7 Feed line to which hand operated rotary pump may be attached. Takes gasoline direct from storage tank. Does not interfere with air operation.

8 Air line through which air pressure is applied to auxiliary tank. (See also 10).

9 Clean out line. Extends to within one-half inch of bottom of pressure tank. By opening it, closing 6 and applying air through 8, bottom settlings are forced out into the open air.

10 Spud for attaching drain-back line permitting draining of tower container back into storage tank. This line and air line may be connected with a three-way by-pass valve, the operation of which drains the tower container back through line 6, into the pressure tank, up through line 8, through the by-pass valve and into the storage tank through line 10.

11 Spud for attaching vent pipe extending up into the air. 11a Double goose-neck type vent which may be attached to 11.

12 Extra 4-inch spud with plug. Foot valve may be inserted through this in the event foot valve type of pump is used.

13 Welded-on elbow fill pipe through which pressure tank is filled with gasoline and into which is fitted one-way valve.

14 One-way inlet valve which opens automatically when pressure on auxiliary tank is released. Through it the auxiliary tank fills with gasoline by gravity.

15 Rod attached to housing of inlet valve and extending up through 4-inch pipe. With this rod the valve housing may be unscrewed from auxiliary fill pipe and lifted out through the 4-inch pipe in the event it should ever need attention.

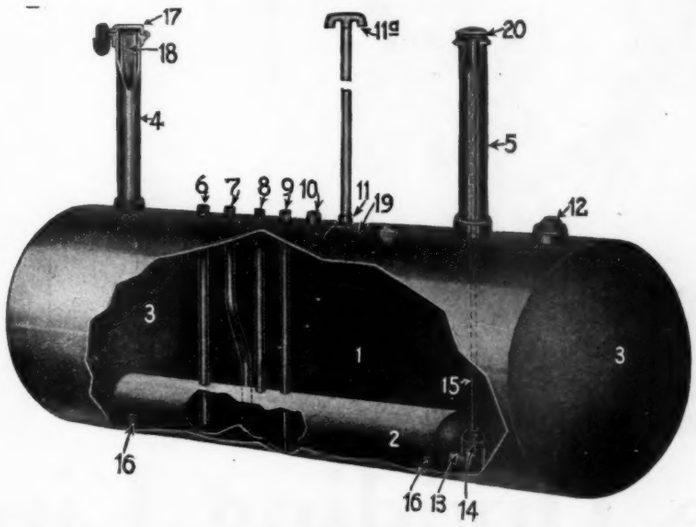
16 Steel straps which are welded to the auxiliary tank and to the bottom of the storage tank. Holds them together as a single unit.

17 Hinged cap atop the fill pipe. Has padlock arrangement.

18 Fine mesh strainer and fire screen fitting within the fill pipe.

19 Underwriter's label signifying that the Columbian Combination Underground Tank has been tested and approved by the Underwriter's laboratories.

20 Screw-on cap for 4-inch pipe provided for removing inlet valve to auxiliary pressure tank.



You too Will Like It

HUNDREDS of oil distributors swarmed the Columbian exhibit at the Tulsa show to inspect the "Cow and Calf" Tank. Many of them came back the second and third time to study it. Not a one left without expressing his appreciation of this new Columbian invention. Without doubt it was the most popular equipment attraction for oil distributors at this great International show.

One Chief of Distribution for a large oil company sent more than a score of his men to look it over and report to him. Their unanimous report was "Chief, buy us 'Cow and Calf' tanks for our underground storage and nothing else."

Already, manufacturers of air operated pumps are adopting the "Cow and Calf" tank as a standard unit of their systems.

What is the "Cow and Calf" tank and what does it do?

Briefly, it is a high grade, all-welded, dished head Columbian underground storage tank into which is built the auxiliary air tank necessary for the operation of air systems. It eliminates a separate air tank. It combines the storage and air tanks in one unit.

It is a combination tank in more ways than one. Besides air operated pumps it will handle hand operated pumps of the rotary or foot valve type. It will handle any one, any two or all three types simultaneously without interference, one with the other. How does it do it? Read the full details in the column to the left.

The Columbian Combination Underground (Cow and Calf) Tank has been approved by the Underwriter's laboratories and bears their label. A cut-away-section of a 550 gallon size will be exhibited at the National Marketers Fall Exposition in Cleveland, November 18, 19 and 20, exhibit Nos. 43 and 74. A complete 550 gallon "Cow and Calf" galvanized tank will be awarded as a prize at Cleveland. In the meantime write for detail blue prints and specifications covering your underground requirements.

Truck Tanks
Oil Field Tanks
Bulk Station Tanks

Underground Tanks
Floating Tank Decks
Barrels, Buckets

Carrying Cans, Funnels
Faucets, Valves

Oil and Gasoline Pumps
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COLUMBIAN STEEL TANK COMPANY

EST'D 1894

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The Dividing Line Between Profit and Loss

The crew with the rig that stands the loads and strains of fast drilling reaches pay sand before the crew that trusts to luck —and—a—wooden—derrick!

Practically every "tool pusher" has seen the time when drilling success and drilling failure depended on *the derrick.*

It seldom takes more than one such experience to prove that only the best rig is good enough when you consider it is *the dividing line between profit and loss.*

If you have never had bad luck with a wooden derrick, your turn is next. You never know when it is coming. And when you do, we venture to guess your name will be added to the long list of those who depend on INTERNATIONAL "IDECO" Galvanized Steel Rigs to see them through bad luck, hard drilling and high winds.

Why wait? There's an INTERNATIONAL "IDECO" warehouse local to your wells.

Write, phone or wire for full information on INTERNATIONAL "IDECO" Steel (Galvanized) Derricks, Complete Rigs and Equipment.

INTERNATIONAL STEEL DERRICKS (GALVANIZED)

The International Derrick & Equipment Co.

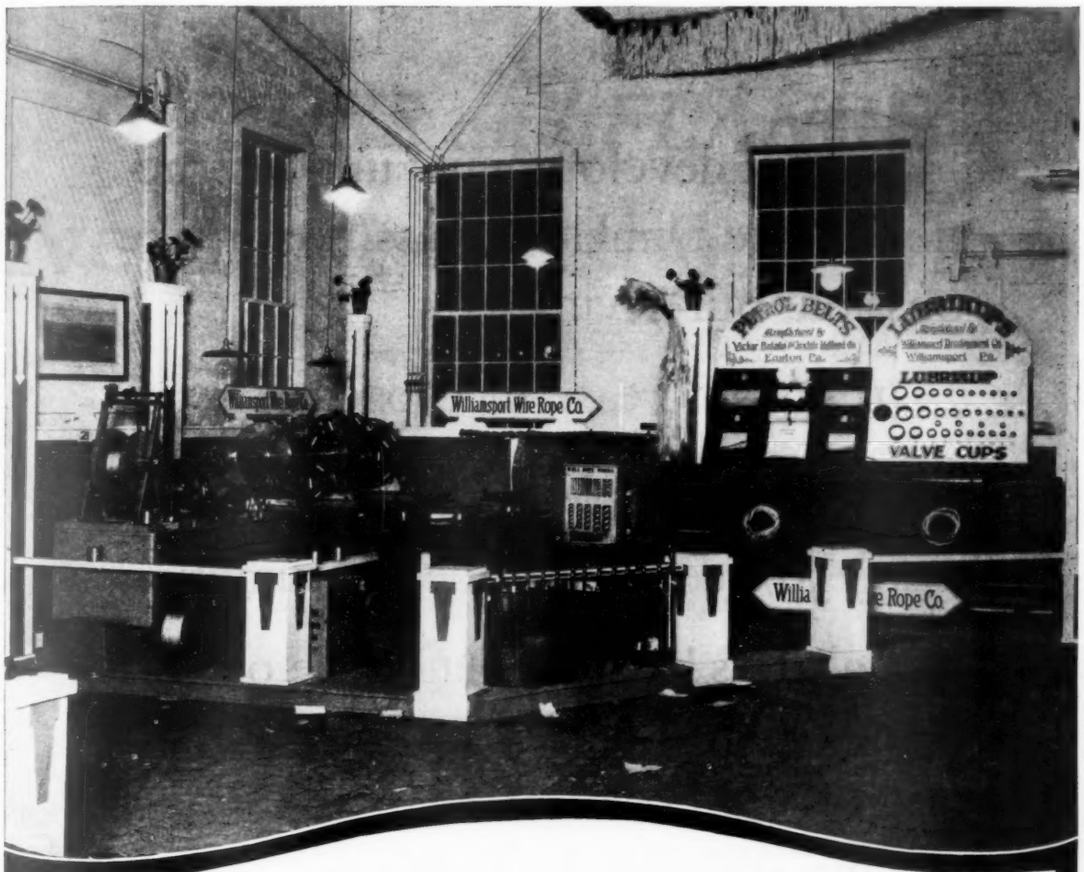
Columbus, Ohio **Los Angeles, Cal.**

Branches & Warehouses

TULSA HOUSTON CASPER SHREVEPORT SMACKOVER OIL CITY BAKERSFIELD TAFT LOS ANGELES

EXPORT OFFICE—No. 2 Rector St., New York

The Largest Company Devoted Exclusively to the Manufacture of Steel (Galvanized) Equipment for the Oil, Gas and Artesian Industries.



AN APPRECIATION!

To those of you who visited us at the Convention we reiterate our appreciation, and believe it afforded you an opportunity to clearly see, and verify, the advantages Williamsport Lines hold for you in their use.

We regret that other users of Wire Lines could not visit us at this time to see for themselves the outstanding superiority of

WILLIAMSPORT
WIRE Telfax Tape Marked **LINES**

WILLIAMSPORT WIRE ROPE COMPANY
Main Office and Works: Williamsport, Pa.

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WILLIAMSPORT
Service in Every Important Field

Recent developments in construction of the Dubbs Process now make possible our giving you

(1) 50% increase in capacity

(2) 25% increase in gasoline yield

(3) 50% decrease in fuel consumption

and all this by an expenditure on our standard 500 barrel unit which increases its cost less than 10% And yet we still aim to improve

Universal Oil Products Company
Owners of the Dubbs Process
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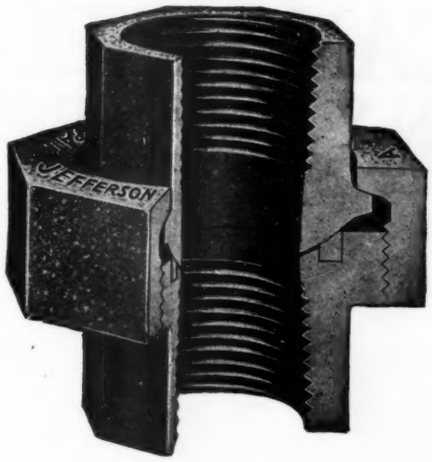
Jefferson

UNIONS and FLANGES

Save Time—Labor—Money

Look for name on the nut



Note location of brass seat ring

JEFFERSON Unions and Flanges are, without doubt, time, labor and money savers, and once you use a Jefferson you will be convinced of the high grade of material and the excellent workmanship that are put in these unions and flanges. All Jefferson Unions and Flanges are made of high-grade, air-refined, malleable iron, carefully inspected and properly tested, with a ground ball, brass-to-iron joint which cannot corrode, no gasket being required. The brass seat ring is located in a recess away from the runway of the fitting. This location prevents the ring from being loosened by the difference in the expansion and contraction of the iron and brass, and also from being dislodged no matter how far the pipe may be screwed into the fitting.

Style "B"

We carry a full line of Jefferson Unions and Flanges in all sizes—why not try one—or better still have our salesman call and explain why you should "JEFFERSONIZE."

Style "D"

BE SURE IT'S A JEFFERSON

CONTINENTAL SUPPLY COMPANY

General Offices: St. Louis

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More than 70 Stores in the Oil Country

"If Continental Sells It There Is No Better"

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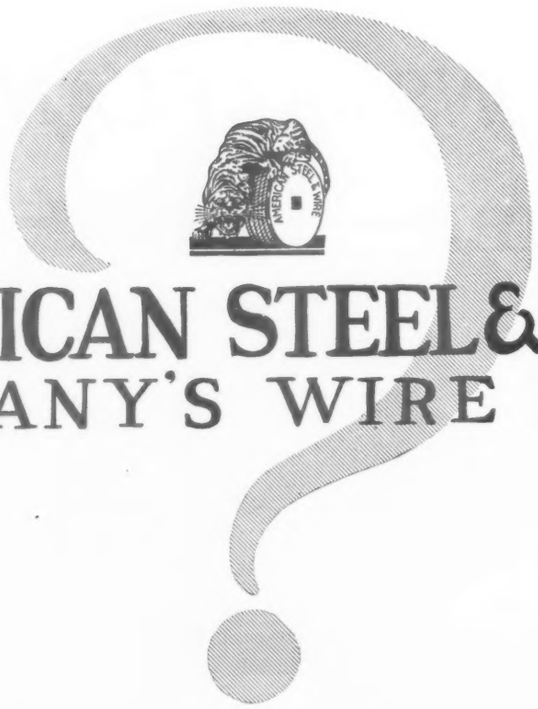

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COMPANY'S WIRE LINES

Yes! we have them—
and hundreds of other
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just tell us your needs

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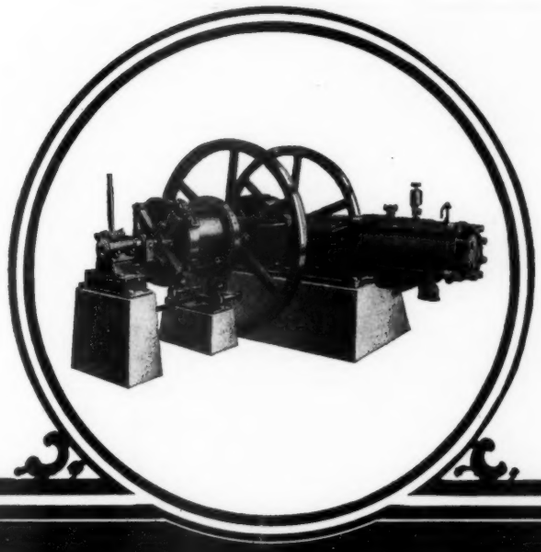

FRANKLIN
VALVELESS GAS ENGINES

Once you have used the FRANKLIN you will use no other kind of gas engine because no other kind gives such real satisfaction, performs so powerfully and smoothly, has so few repairs necessary as the FRANKLIN.

Its construction keeps out all sand and grit; the valveless feature eliminates valve grinding and the splashing oil system used reduces your lubrication bills by 75%.

You have heard what the FRANKLIN has been doing—why not let them do your work also.

Write to-day for Descriptive Bulletin

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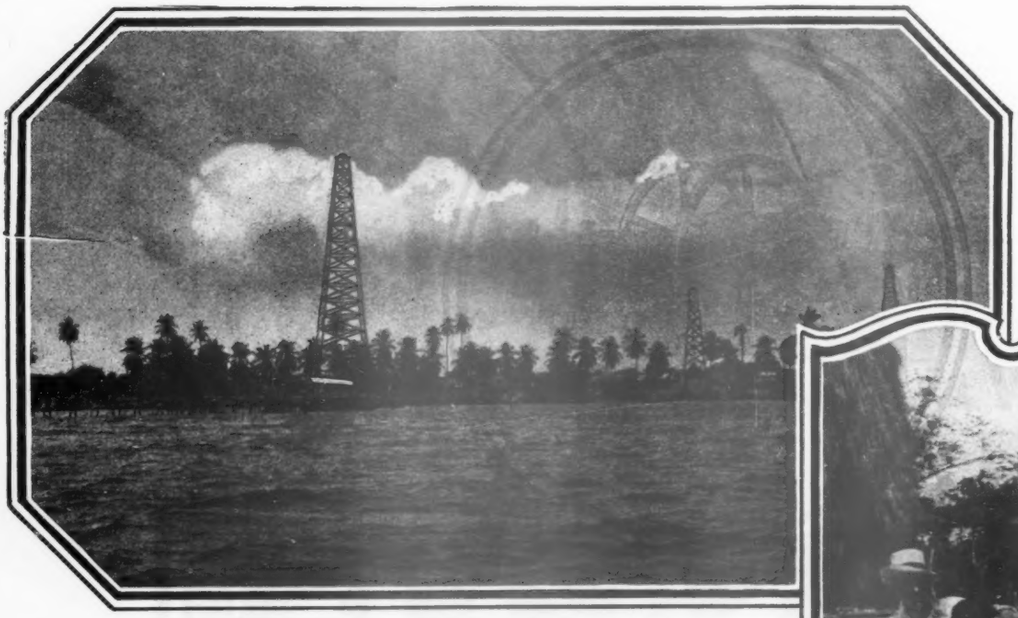


Moore drilling derricks in La Rosa Field, on Lake Maracaibo, Venezuela. Well on left making 4500 bbls.

Another kind of "petting party." Mr. C. W. Hamilton, well known American oil man, in intimate conversation with one of his Venezuelan friends. (We are sure the Madam will not object.)

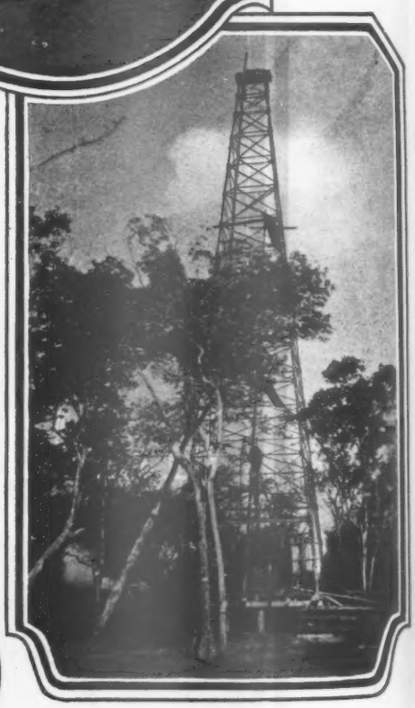
They "Come High" in Venezuela

112-Foot Moore Derricks
4500-barrel Well

In Venezuela fields, as elsewhere, wherever you go the familiar sight of Moore derricks greets the eye. Scores of these large and powerful drilling derricks are in use in these fields, and more are constantly being added, proving the truth of the saying that nothing succeeds like success.

The two derricks above are 112-foot Moore Combination drillers, in La Rosa field on Lake Maracaibo. The one on left is making 4500 bbls. The one in center is now drilling.

Proof against wind, fire, rot, and insects, Moore derricks render invaluable service in safeguarding production and heavy drilling investments.



Another 112-foot Moore Driller. In Irara Field, near Maracaibo, Venezuela.

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Lee C. Moore & Company, Inc., Pittsburgh, Pa.
Established 1907

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Dallas, Texas, Magnolia Bldg.
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Pressed Steel Products

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PRESSED STEEL PRODUCTS

Why You Should Investigate The G-E-M Bilged Steel Barrel

Price—Our great production and patented method of manufacture permits the G-E-M Barrel to be sold for less than any other bilged steel container.

Hoops—The G-E-M Barrel alone has the hoop formations which prevent denting and crushing.

Drainage—Openings permit complete drainage and yet the plugs are not exposed to harmful contacts.

Thickness—The full 13 gauge is uniform throughout giving a perfectly balanced package.

Handling—The even balance and the bilge shape make it a one-man package.

The G-E-M Bilged Steel Barrel is furnished in 55 gallons capacity, black, galvanized or tinned.

Also, Presteel I. C. C. and Light Gauge Drums, from 15 to 110 gallons capacity.

Wire or write to our nearest sales office.

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Refiners and Marketers of High Grade
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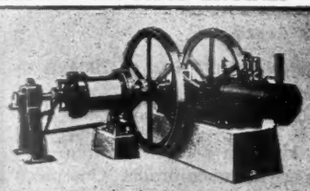
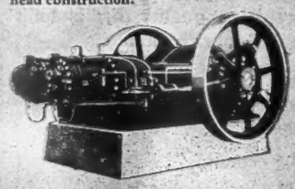
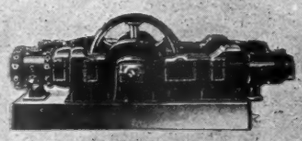
BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS



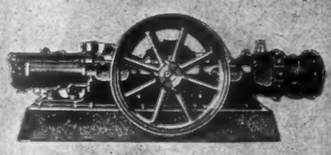
The Bessemer Oil Field Engine
Famous in oil territory the world over. The original two cycle engine with cross-head construction.



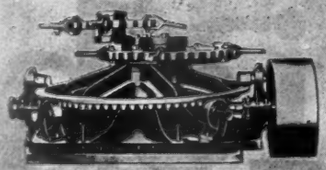
Bessemer Type IV Oil Engine
A dependable engine of trouble-free performance, which operates on inexpensive fuel oil.



The Bessemer Type Ten Compressor
This is the newest Bessemer unit, combining engine and compressor in one unit and incorporating numerous refinements.



The Bessemer Type VIII B Direct Driven Compressor
Standard equipment in the Gasoline-from-Gas Industry. The most efficient and economical means of gas or air compression.



Bessemer Roller Pumping Power
A compact pumping unit which keeps rods close to ground. Master wheel kept level by six rollers.

A synonym for the Best for a Quarter Century

From the first gas engine in 1898 to the Type Ten compressor in 1923, Bessemer leadership in the Oil Field has been an undisputed fact.

Machinery to meet every oil field need has been developed and perfected in the Bessemer plant and built to maintain the Bessemer ideal—*that every product shall be the Best in its line.*

Today the Bessemer trademark on oil field equipment, compressors, gas engines, oil engines, pumps and pumping powers, is your guarantee of unexcelled design, sturdy construction and world-wide service.

Complete descriptive catalog gladly sent on request.

THE BESSEMER GAS ENGINE COMPANY
York Steet : Grove City, Pa.

20 years on the job

And even better!

All GOODRICH
and all GOOD

Air Drill and Tool Hose
Oil Drillers' Hose
Steam Hose
Water Hose
Gasoline Hose
Radiator Hose
Sand Blast Hose
Suction Hose
Air Brake Hose
Boiler Washout Hose
Garden Hose
Sprayers' Hose
Oxy-acetylene Hose
Fire Protection Hose and
Hose for conducting acids, chemicals, gas, paints, etc.

THIS is an unretouched photograph of a section of Goodrich chemical fire hose, just as we received it from the Taunton, Mass., Fire Department. It is over *twenty years old!*

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Established 1870

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